UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101
29 SEP 2004

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Site: TRI-COUNTY
ID #KSD001402320
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Other:
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URGENT LEGAL MATTER
PROMPT REPLY NECESSARY
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Paul Schumacher
Vice-President, Manufacturing Operations
Raytheon Aircraft Company
9709 East Central
Wichita, Kansas 67206

Mr. Wayne W. Wallace
Registered Agent
Raytheon Aircraft Company
9709 East Central
Wichita, Kansas 67206

The Honorable Howard Rigg, Jr.
Mayor of City of Herington
17 North Broadway
Herington, Kansas 67449

Dear Messrs. Schumacher and Wallace and Mayor Rigg:

Re: Unilateral Administrative Order, Hangar 1 Area
Tri-County Public Airport Site, Herington, Kansas

Enclosed is a Unilateral Administrative Order for Removal Response Activities ("UAO") that has been issued by Region VII of the United States Environmental Protection Agency ("EPA") pursuant to Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606. This UAO requires Raytheon Aircraft Company and the city of Herington to conduct specific tasks in connection with the implementation of a removal action at the Hangar 1 Area of the Tri-County Public Airport site.

Please note that Section XXIV of the UAO provides Raytheon and/or the city with an opportunity to request a conference with EPA. The EPA encourages the parties to participate in a conference for the purpose of presenting information, arguments, or comments on matters related to the UAO. If Raytheon and/or the city do not wish to participate in a conference, either party may submit such information, arguments, or comments to EPA within fourteen (14) days of receipt of this UAO. The request for a conference must be made within seven (7) days of receipt of the UAO and must be held prior to the effective date of the UAO.

The effective date of the UAO is the tenth (10th) day after receipt of the UAO, unless one of the parties requests a conference with EPA. If a conference is requested, the UAO will become effective on the twenty-first (21st) day after receipt of the UAO. Also, please note that Paragraph 26 of Section VI of the UAO requires submission of a Notice of Intent to Comply within seven (7) days of the effective date.

If you have any questions regarding the enclosed or wish to request a conference, please contact J. Scott Pemberton, Office of Regional Counsel, at (913) 551-7276.

Sincerely,

~~Cecilia~~ Tapia
Director
Superfund Division

Enclosure

cc: Rick Bean, Kansas Department of Health and Environment
Beverlee J. Roper, Esquire, Blackwell Sanders Peper Martin, LLP
Charles C. Steincamp, Esquire, Depew Gillen Rathbun & McInteer, LC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
901 NORTH 5th STREET
KANSAS CITY, KANSAS 66101

04 SEP 30 AM 11:29

ENVIRONMENTAL PROTECTION
AGENCY-REGION VII
REGIONAL HEARING CLERK

IN THE MATTER OF: TRI-COUNTY PUBLIC AIRPORT SITE MORRIS COUNTY, KANSAS RAYTHEON AIRCRAFT COMPANY AND CITY OF HERINGTON, KANSAS, RESPONDENTS. Proceeding under Sections 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. § 9606(a).	Docket No. CERCLA-07-2004-0311

UNILATERAL ADMINISTRATIVE ORDER FOR REMOVAL RESPONSE ACTIVITIES

TABLE OF CONTENTS

I. JURISDICTION AND GENERAL PROVISIONS

1. This Unilateral Administrative Order for Removal Response Activities ("Order") is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2923, and was further delegated to the Regional Administrators by EPA Delegations Nos. 14-14-A and 14-14-B. This authority has been delegated to the Region VII Superfund Division Director by Regional Delegations Nos. R7–14-014-A and R7-14-014-B.

2. This Order pertains to the Hangar 1 Area of the Tri-County Public Airport Site ("Site") located in Morris County, Kansas. This Order requires Respondent Raytheon Aircraft Company ("Raytheon") and Respondent City of Herington, Kansas ("City") to conduct removal actions described herein to abate an imminent and substantial endangerment to the public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site. Except as otherwise specified in this Order, Respondent City is required to implement the specific tasks identified for implementation by Respondent City as specified in Section VI of this Order and in the Statement of Work (Attachment 5). Respondent Raytheon shall conduct all Work under this Order not specifically required of Respondent City.

3. The EPA has notified the state of Kansas of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

4. This Order applies to and is binding upon Respondents and Respondents' successors and assigns. Any change in the ownership or status of Respondents including, but not limited to, any transfer of assets or real or personal property shall not alter Respondents' responsibilities under this Order.

5. Each Respondent shall ensure that its contractors, subcontractors and representatives performing Work under this Order receive a copy of, and comply with this Order. Each Respondent shall be responsible for any noncompliance with this Order by its contractors, subcontractors and representatives.

III. DEFINITIONS

6. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in the exhibits or appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "Action Memorandum" shall mean the EPA Action Memorandum relating to the Hangar 1 Area of the Site and all attachments thereto. The Tri-County Public Airport Site Removal Action Memorandum ("Action Memorandum") is Attachment 4 to this Order.

b. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

c. "Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" or "business day" shall mean a day other than a Saturday, Sunday or Federal holiday. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday or Federal holiday, the period shall run until the close of business of the next working day.

d. "Document" shall mean any object that records, stores or presents information and includes writings, drawings, graphs, charts, photographs, phono records and other data compilations from which information can be obtained or translated, if necessary, through detection devices into reasonably useable form, and: (i) every copy of each document which is not an exact duplicate of a document which is produced; (ii) every copy which has any writing, figure or notation, annotation or the like on it; (iii) drafts; (iv) attachments to or enclosures with any document; and (v) every document referred to in any other document.

e. "Effective Date" shall mean the date this Order is effective pursuant to Section XXVI of this Order.

f. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

g. "Hangar 1 Area" or "H1 Area" shall mean that portion of the Tri-County Public Airport Site, as defined herein, which consists of the area adjacent to the North Hangar at the Site as shown in Attachment 2.

h. "KDHE" shall mean the Kansas Department of Health and Environment and any successor departments or agencies of the State.

i. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

j. "Paragraph" shall mean a portion of the Order identified by an Arabic numeral.

k. "Parties" shall mean the EPA and Respondents.

l. "Preliminary Remediation Goals" shall mean clean-up standards for specific chemicals as listed in Attachment 3 of this Order.

m. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, et seq. (Also known as the Resource Conservation and Recovery Act).

n. "Risk Based Standards for Kansas" shall mean the Kansas Department of Health and Environment, Risk-Based Standards, RSK Manual - 2nd Version, March 1, 2003.

o. "Section" shall mean a portion of this Order identified by a Roman numeral.

p. "Site" shall mean the Tri-County Public Airport ("TCPA") Superfund Site, including *inter alia*, the Hangar 1 (H1) Area, located in Morris County, Kansas as generally shown on the Site maps attached hereto as Attachments 1 and 2.

q. "State" shall mean the state of Kansas, including all of its departments, agencies and instrumentalities.

r. "Unilateral Order" or "Order" shall mean this Unilateral Administrative Order for Removal Response Activities and all attachments hereto. In the event of conflict between this Order and any attachment, the Order shall control.

s. "United States" shall mean the United States of America, including all of its departments, agencies and instrumentalities.

t. "Waste Material" shall mean: (i) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (ii) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (iii) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

u. "Work" shall mean all activities Respondent is required to perform under this Order, except for the record retention requirements under Section XI of this Order.

IV. FINDINGS OF FACT

7. In 1943, the Herington Army Airfield ("HAAF") was activated. Between 1942 and 1944, the U.S. Government acquired the real property which comprised the HAAF. The former HAAF is located on the Delavan Kansas Quadrangle 7.5-minute Topographic Map within the Sections 31 and 32, Township 15 South, Range 6 East and Sections 5 and 6 Township 16 South, Range 6 East. The primary function of the HAAF was the processing of heavy bombardment crews and equipment before deployment overseas. Activities at the HAAF included aircraft and vehicle maintenance, pilot training, marksmanship and aircraft support operations. The main facilities at the HAAF included runways, hangars, aircraft maintenance shops, fuel storage tanks, motor pools, barracks, administration buildings, a sewage treatment plant and a landfill.

8. The HAAF was deactivated in 1946 and designated as surplus property in April 1947. In 1948, title to the HAAF was conveyed to the city of Herington, Kansas. The city of Herington held title until 1979 when title was conveyed to the Tri-County Public Airport Authority. In May of 1998, the city of Herington Commission dissolved the Tri-County Airport Authority and property ownership transferred back to the city of Herington.

9. Beech Aircraft Company ("Beech"), the predecessor to Raytheon Aircraft Company ("Raytheon"), leased space at the Tri-County Public Airport from the city of Herington from 1950 to the early 1960s. This leasehold covered several airport buildings and included the use of the airport, taxiways and apron, machinery, equipment and tools.

10. As part of its operations at the Site, Beech used several chemical processes which included the use of TCE degreasers and chromic acid solutions in a deoxidizer tank. Two trichloroethylene ("TCE") degreasers were used by Beech at the Site. One degreaser was located in Hangar 1 as part of the chromium conversion coat process line. A second degreaser was located in Hangar 4 as part of the steel wing tank shipping container manufacturing process. TCE was stored in 55 gallon drums in a building located northwest of Hangar 1.

11. The United States Army Corps of Engineers ("USACE") conducted an investigation at the Site from 1994 to 1997 to determine whether Department of Defense ("DOD") activities at the HAAF resulted in contamination of soil or groundwater. A final report detailing the results of this investigation was completed on July 30, 1998. During this investigation, several areas of

interest ("AOIs") relating to former Army activities conducted at the Site were studied, including the landfill, the wastewater treatment plant, and a paint, oil and dope storage building.

a. Soil samples were collected from 15 locations in nine AOIs from a depth of 3 feet to 8 feet. Di-n-butylphthalate, arsenic, lead, barium and chromium were detected in the soil samples.

b. Twenty-five groundwater locations were sampled by the USACE, including 4 temporary monitoring wells, 16 permanent monitoring wells, 3 existing on-Site water supply wells, and 2 off-Site private water supply wells. Volatile organic chemicals ("VOCs") were detected in 9 of 16 groundwater monitoring well samples during the 1995 sampling event. Benzene, toluene, ethylbenzene and xylene ("BTEX") and other fuel related compounds were identified in 5 samples with total BTEX concentrations ranging from 2 to 8,380 micrograms per liter ("µg/L"). TCE was detected in 6 samples with concentrations ranging from 4 to 190 µg/L. In 1997, VOCs were detected in 11 of 12 samples collected with total BTEX concentrations ranging from 16 to 15,080 µg/L. TCE was detected in 6 samples with concentrations ranging from 40 to 240 µg/L. The highest concentration was detected in a private water supply well and the MCL of 5 µg/L was exceeded in all six samples.

12. In May 1996, KDHE completed a preliminary assessment/screening site inspection ("PA/SSI") of the Tri-County Public Airport Site in response to the detection of TCE during the USACE investigation. This investigation included a search for potential sources, the sampling of selected groundwater monitoring wells installed and owned by the USACE, and a limited investigation of the surface water, soil and water pathways.

a. During the PA/SSI, 6 groundwater samples were collected, 5 from USACE groundwater monitoring wells and one from a well located adjacent to water supply well #1. TCE was detected in these samples at concentrations ranging from 2.7 to 151 µg/L. Carbon tetrachloride was detected in one well at a concentration of 1.2 µg/L.

b. The KDHE concluded that groundwater beneath the Site was contaminated with TCE and carbon tetrachloride dispersed in several plumes and that multiple contamination sources existed at the Site.

13. In October 1997, EPA sampled private groundwater wells in the area around the Site as part of a removal evaluation ("RE"). This activity was initiated by the detection of TCE in samples collected from 3 private water supply wells.

a. As part of the RE, 43 groundwater samples were collected from areas around the Site including the town of Latimer, Kansas, which is located approximately 2.5 miles to the northwest of the Site. TCE was detected in all 15 of the private water well samples collected in the immediate area of Latimer and the 8 samples from the surrounding area.

b. All TCE concentrations detected in wells within Latimer (16 to 34 µg/L) exceeded the MCL of 5 µg/L. Six of the 8 groundwater samples collected from wells in the surrounding area had concentrations (10 to 190 µg/L) exceeding the TCE MCL.

14. In 1998, EPA initiated an Expanded Site Investigation/Remedial Investigation ("ESI/RI") at the Site with fieldwork conducted in two phases. Phase 1 included a spring/seep survey, off-Site sampling and a geophysical survey of two areas on-Site. Phase 2 included source and pathway characterization on- and off-Site. The primary objectives of Phase 2 were to verify that a release of TCE had occurred, determine the source areas and characterize the vertical and areal extent of contamination. The characterization of potential source areas involved the collection of field analytical soil samples which were analyzed with a field gas chromatograph as well as the collection of 67 soil samples which were submitted for laboratory analysis. The characterization of groundwater included the installation and sampling of 30 monitoring wells on- and off-Site in three aquifers, the sampling of 10 USACE wells and the sampling of 43 water supply wells in the surrounding area. The characterization of surface water included the collection and analysis of 17 surface water samples and 9 spring and seep samples from the Clarks Creek drainage basin.

a. TCE was detected in exposed surface soil samples collected from Hangars 1 and 4. At Hangar 4, the surficial contamination was primarily confined to the area adjacent to where the TCE degreaser was formerly located. TCE concentrations in that area ranged from 5.6 to 26 µg/Kg. Surficial concentrations of TCE at Hangar 1 ranged from 2.0 to 19 µg/Kg. The highest surface soil concentration of TCE was 88 µg/Kg and was from a sample taken from the northwest side of Hangar 1. TCE was detected at a concentration of 270 µg/Kg in the west drain sump inside of Hangar 4.

b. TCE was detected in subsurface soil samples collected from Hangars 1 and 4, and an area referred to in the ESI/RI report as the "potential burial area." The highest subsurface contamination at Hangar 4 was detected at a depth of 1-2 feet in a boring completed inside the hangar in the area where the TCE degreaser was formerly located, with TCE found at a concentration of 770 µg/Kg. The highest subsurface contamination at Hangar 1was detected at a depth of 1-2 feet beneath the concrete adjacent to the northwest corner of the hangar, with TCE found at a concentration of 2,300,000 µg/Kg. At the potential burial area, the highest subsurface contamination was detected at a depth of 11-12 feet, with TCE found at a concentration of 23 µg/Kg.

c. Monitoring wells installed during the ESI/RI verified that the Site is underlain by a succession of shale aquitards and limestone aquifers. Numerous vertical and diagonal fractures were observed in the rock cores obtained at selected locations. Results of the monitoring well sampling demonstrated that TCE has impacted the unconfined Cresswell Aquifer and the underlying Stovall and Towanda aquifers. Concentrations in the Cresswell Aquifer wells ranged up to 66,000 µg/L. The highest concentration was detected in MW-5 located on the southeast side of Hangar 4. Concentrations in the Stovall Aquifer wells, which includes most of the USACE monitoring wells, ranged up to 5,100 µg/L. No VOCs, including TCE, were detected in the background monitoring wells installed at the Site. The majority of the on-Site monitoring wells contained VOCs and, in particular, TCE. Water level data demonstrated that the predominant horizontal groundwater flow direction is to the north-northwest in the direction of Latimer. The distribution of TCE contamination indicates that the Cresswell and Stovall aquifers are contaminated beneath most of the Site.

d. The ESI/RI analytical results verify that off-Site water supply wells to the north and northwest of the Site have been impacted by VOCs, primarily TCE. In water supply wells, TCE was detected in concentrations ranging from 1.8 to 280 µg/L. The highest TCE concentration detected in a water supply well used for human consumption was 56 µg/L located north of the Site. The TCE concentration in 22 of 25 of the samples in which TCE was detected exceeded the TCE MCL of 5 µg/L. Carbon tetrachloride was detected in several of the wells located in and near Latimer with concentrations ranging from 1.8 to 19 µg/L.

e. The results indicated that eight of the 24 spring or seep samples contained TCE ranging in concentrations from 0.699 µg/L to 12.7 µg/L. Seven of the contaminated springs and seeps lie to the northwest of Latimer and the remaining contaminated seep is located to the northeast of the community. The results show that the groundwater discharging to surface water in the Clarks Creek drainage basin has been impacted by TCE, the likely source of which is the TCPA Site.

f. Analytical results from the off-Site monitoring well samples indicate that the TCE is migrating northwest in the Cresswell, Stovall and Towanda aquifers. Results of water supply well and spring and seep samples verify the presence of a corridor of contaminated groundwater to the north and northwest of the Site.

15. In November 1997, EPA approved a fund financed time-critical removal action to address contaminated drinking water wells affecting residences near the Site. The EPA determined that there was an immediate risk to human health and welfare or the environment and that response actions were immediately required to prevent, limit or mitigate conditions resulting from the presence of TCE, carbon tetrachloride and ethylene dibromide above MCLs in several drinking water wells. The EPA's removal action consisted of providing bottled water to 13 residences and a carbon filtration system for one residence.

16. In March 2000, Raytheon and EPA entered into an Administrative Order on Consent (AOC), Docket No. CERCLA-7-2000-0013, pursuant to Sections 104 and 122 of CERCLA, 42 U.S.C. §§ 9604 and 9622. The March 2000 AOC requires Raytheon to provide water treatment systems for residences with water supply wells exceeding the maximum MCL for TCE and degradation products. The objective of the removal action was to reduce TCE exposure to residents with contaminated drinking water wells. The systems which utilize carbon filtration have been installed in 23 residences whose drinking water source exceeded the MCL for TCE. Under the AOC, Raytheon maintains the water treatment systems. Quarterly monitoring of the treatment systems and other residential water supply wells potentially impacted by the ground water contamination is conducted by Raytheon to assure that all residences with supply water that exceed the MCL for TCE have water treatment systems installed.

17. In December 2000, a Consent Order was entered into by Raytheon and KDHE pursuant to the Kansas Environmental Response Act (K.S.A. 65-32a et seq.) for purposes of conducting a Remedial Investigation/Feasibility Study ("RI/FS"). The objectives of the RI/FS were to determine the nature and areal extent of environmental contamination, evaluate the threat to public health and environment, characterize geological properties of the affected soils and aquifers, and evaluate remedial alternatives for corrective action. On September 24, 2001, KDHE approved Raytheon's Work Plan to conduct the RI/FS.

a. A total of 133 soil borings were completed as part of the RI as of April 2003. At the Hangar 1 Area, 65 soil samples were obtained from 21 soil borings. The primary contaminants detected were TCE, cis-1,2-DCE and vinyl chloride. TCE was detected at a maximum concentration of 170,000 µg/kg. Vinyl chloride was detected at 15,000 µg/kg at 1 foot below the concrete pad of the loading dock. The vinyl chloride Risk Based Standard for Kansas ("RSK") for soil exposure in a non-residential setting is 20 µg/kg. Twenty-three samples had detections of vinyl chloride above the soil to groundwater protection pathway RSK of 20 µg/kg. The highest vinyl chloride concentration was 24,000 µg/kg at a depth of 12 feet at the northwest corner of Hangar 1. Concentrations of DCE ranged from 660 to 300,000 µg/kg in the same area. The soil to groundwater protection pathway RSK for DCE is 800 µg/kg. Concentrations of TCE ranged up to 1,600,000 µg/kg. The soil to groundwater protection pathway RSK for TCE is 200 µg/kg.

b. Perched water was collected from several of the soil borings during the RI. The primary contaminants detected in the perched water were TCE, cis-1,2-DCE and vinyl chloride. TCE was detected at concentrations up to 1000 µg/l, DCE up to 800 µg/l and vinyl chloride up to 32,000 µg/l.

18. The Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by EPA to conduct removal assessment activities at the TCPA Site. These assessment activities were conducted in May 2003 and focused on the Hangar 1 source area. The removal assessment was conducted to support the development of an Engineering Evaluation/Cost Analysis ("EE/CA").

a. Specific removal assessment activities included the following tasks.

i. Collection of subsurface soil samples. Forty-five soil samples were collected to facilitate the calculation of more accurate volume estimates of contaminated soils which exceed the PRGs. In addition, two subsurface soil samples were collected from the most heavily concentrated portion of the source area and analyzed by the Toxicity Characteristic Leaching Procedure (TCLP) to determine whether these soils should be classified as characteristic hazardous waste. Two subsurface soil samples were tested for grain size analysis to determine the general soil type within the source area.

ii. Collection of groundwater samples. Two groundwater samples were collected from within the most heavily contaminated portion of the source area to characterize perched water within the overburden. These samples were collected to determine appropriate treatment or disposal options for this water in the event that dewatering became a component of any future removal actions.

iii. Collection of indoor air sample. Four indoor air samples were collected from inside the Hangar 1 building to determine the potential threat to human health as a result of subsurface vapor intrusion from contaminated groundwater and soil.

iv. Soil vapor extraction (SVE) pilot test. A limited SVE pilot test was conducted to determine whether in-situ SVE could be a viable technology for a source area removal action.

b. TCE, cis-1,2-DCE and vinyl chloride were detected in the soil samples. TCE was detected at a maximum concentration of 20 µg/kg. Vinyl chloride was detected at 2,500 µg/kg and DCE at 970 µg/kg. Using existing data from previous investigations and the data from the removal assessment, it was estimated that a total of 39,365 loose cubic yards of soil exceed the RSK values for TCE, DCE or vinyl chloride. This estimate assumed excavation to a depth of 15 feet which is the approximate depth to bedrock. The total contaminant mass in the area north of Hangar 1 was estimated from this data with values of 160 lbs of vinyl chloride, 2,817 lbs of TCE and 1,179 lbs of cis 1,2-DCE. In the perched groundwater samples collected, TCE was detected at 15,000 µg/l, 1,2-DCE at 55,000 µg/l and vinyl chloride at 31,000 µg/l.

c. Two samples were collected for Toxicity Characteristic Leaching Procedure ("TCLP") analysis from the areas with the highest field photoionization detector (PID) readings for VOCs during the removal assessment. The TCLP results from these samples did not exceed regulatory levels for a characteristic hazardous waste.

d. TCE was detected in two air samples located in the U.S. Stone facility. TCE was detected at a concentration of 0.47 $\mu g/m^3$ and 1,2-DCE at 0.12 $\mu g/m^3$ in the northwest office. TCE was detected at a concentration of 0.22 $\mu g/m^3$ in the northeast corner of the building. TCE was not detected in the other two samples which were collected in the northwest corner of the building and in the break room.

e. On May 15, 2003, two 4-inch diameter SVE extraction wells and two 2-inch diameter SVE observation wells were drilled in a grass field northwest of Hangar 1. SVE pilot tests were conducted on May 20, 2003 by Bluestem Environmental Engineering, Inc. The depth to water was approximately 5 feet below ground surface (bgs) prior to the start of the SVE pilot testing. The test wells were pumped out to simulate a dual phase extraction system. The results of SVE pilot testing in the Hangar 1 Area indicated that the Site soils are non-homogeneous and that the observed outlying vacuums are the result of naturally occurring fractures through the clay soil. If the soil were a homogenous sand stratum, the data would indicate that soil vapor extraction could be used to remediate the Site. However, as the unsaturated zone is a tight clay, the outlying vacuum appears to be the result of vacuum transmission through naturally occurring fractures, and not the result of homogeneous flow through the soil matrix. It is likely that use of SVE or dual-phase SVE to address contamination the Site would be unsuccessful as the target compounds located in the soil adjacent to the fractures may be removed while the target compounds in the soil matrix between the fractures would not be removed.

19. The EPA Region VII Superfund Division has prepared an EE/CA, which identifies proposed removal action alternatives for contaminated soil at the Hangar 1 Area of the Tri-County Public Airport Site in Morris County, Kansas. This EE/CA was prepared to provide an organized and systematic framework for evaluating the best response technologies for addressing contaminated soil. Based on the comparative analyses of the response action alternatives completed in the EE/CA, the recommended response action was excavation with off-Site

disposal of contaminated soils. A comment period on the EE/CA was held from September 4, 2003 until October 4, 2003, which provided an opportunity for public comment on the proposed removal action.

20. The EPA has prepared an Action Memorandum (Attachment 4 to this Order) which selects excavation with off-Site disposal as the response action for the contaminated soils in the vicinity of the Hangar 1 Area.

21. The EPA and KDHE conducted a Removal Assessment Site Evaluation ("RSE") at the Site between June 1 and July 2, 2004 that focused on the Hangar 1 source area. The objective of the RSE was to determine the boundaries of contaminated soil above the KDHE RSK levels. A total of 119 soil samples were collected from 49 grid locations in a grid encompassing the source area on the northwest corner of Hangar 1 to determine the extent of contamination. In addition, 10 soil samples were collected from 5 probe locations in the proposed borrow area to determine if the soil is suitable to replace contaminated soil in the source area. In the source area, EPA personnel surveyed and marked a sample grid on 25-foot centers. Soil samples were collected from the approximate center of the grid, utilizing KDHE's Geoprobe. The approximate area of soil excavation determined as a result of the removal assessment is shown in Attachment 2.

22. TCE has been detected in the soils and groundwater in the Hangar 1 Area of the TCPA Site and in the groundwater throughout the TCPA Site. TCE was used by Beech, the predecessor to Respondent Raytheon, in its degreasing operations in the 1950s. There are no other known sources of the TCE contamination at the Hanger 1 Area of the TCPA Site. The owner of the Site property is the Respondent City.

23. Contaminant Effects.

a. The EPA has determined TCE as being highly likely to produce cancer in humans. Non-carcinogenic effects of TCE include headaches, vertigo, visual disturbance, tremors, nausea, eye irritation, dermatitis, cardiac arrhythmia and paresthesia. Chronic exposure may irreversibly damage the respiratory system, heart, liver, kidneys and central nervous system.

b. The EPA has classified vinyl chloride as a known human carcinogen. Vinyl chloride exposure results in liver cancer in humans. Breathing high levels of vinyl chloride for

short periods of time can cause dizziness, sleepiness, unconsciousness and at extremely high levels can cause death. Breathing high levels of vinyl chloride for long periods of time can result in permanent liver damage, immune reactions, nerve damage and liver cancer.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

24. Based on the Finding of Fact set forth above, and the Administrative Record supporting this removal action, EPA has determined that:

a. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The contaminants present at the Site, as described in the Findings of Fact above, include "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

c. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. Each Respondent is liable under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

e. The conditions described in the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

f. The conditions at the Site constitute an imminent and substantial endangerment to public health, welfare or the environment.

g. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

h. The actions required by this Order are necessary to protect the public health, welfare or the environment, and are not inconsistent with the NCP and CERCLA.

VI. ORDER

25. Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations and the Administrative Record for this Site, EPA hereby ORDERS that each Respondent comply with the requirements of this Order, as specified herein, including, but not limited to, the

Attachments to this Order and the documents incorporated by reference into this Order. The actions to be implemented at the Site are described in the Statement of Work (Attachment 5 to this Order) and the Tri-County Public Airport Site Removal Action Memorandum (Attachment 4), and generally include, but are not limited to, the excavation and off-Site disposal of contaminated soils from the Hanger 1 Area, conducting clean-up confirmation sampling, backfilling the excavated areas with clean fill material, and replacing original surfaces. The SOW specifies which tasks are the responsibility of each Respondent. The Respondents shall coordinate and cooperate with each other during implementation of the Work required by this Order.

26. Notice of Intent to Comply. Each Respondent shall notify EPA in writing within seven (7) days after the Effective Date of this Order of Respondent's intent to comply with this Order. Failure of any Respondent to provide such notification within this time period shall be a violation of this Order by that Respondent.

27. Designation of Response Contractor(s). Respondents shall perform the Work required by this Order, as specified in the SOW, or retain contractors to perform the Work or a portion of the Work. Each Respondent shall notify EPA of its qualifications or the name(s) and qualifications of such contractor(s) within twenty-one (21) days of the Effective Date of this Order. Each Respondent shall also notify EPA of the name(s) and qualifications of any other contractor(s) or subcontractor(s) retained to perform Work at least fourteen (14) days prior to commencement of such Work. The EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondents, or of a Respondent's choice of itself to perform Work under this Order. If EPA disapproves of a selected contractor or subcontractor or of a Respondent, the Respondent shall retain a different contractor or subcontractor or notify EPA that it will perform the Work itself within fourteen (14) days of receipt of EPA's disapproval and shall notify EPA of that contractor's or subcontractor's name or Respondent's name and qualifications within twenty-one (21) days of receipt of EPA's disapproval. Respondent Raytheon's proposed primary contractor must demonstrate compliance with ANSI/ASQC E-4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard,

January 5, 1995), by submitting to EPA a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B0-1/002), or equivalent documentation as required by EPA.

28. Work to be Performed.

a. Removal Action Work Plan and Implementation. Within forty-five (45) days after the Effective Date of this Order, Respondent Raytheon shall submit to EPA for approval a Removal Action Work Plan ("RAWP") for performing the removal action generally described in Paragraph 25 above and in accordance with Section II of the Statement of Work ("SOW"). The RAWP shall provide a description of, and an expeditious schedule for, the implementation of the actions required by this Order and shall include a detailed description of the tasks and submissions Respondents will complete during the removal action including, but not limited to, the following.

i. A detailed schedule for all removal activities to be performed.

ii. A design plan for implementation of excavation of soil from the Hangar 1 Area, in general agreement with the conceptual plans outlined in the EE/CA, the Action Memorandum (Attachment 4) and the SOW (Attachment 5).

iii. A description of the transportation of all hazardous substances.

iv. A design plan for de-watering of excavation areas and treatment of water removed from the excavation areas.

v. Plans for conducting air monitoring for emissions during removal activities, including contingency plans in the event emissions exceed health-based standards.

vi. The identification of all applicable or relevant and appropriate requirements ("ARARs") under Federal environmental or state environmental or facility siting laws.

b. Once approved, or approved with modifications, the RAWP, the schedule and any subsequent modifications shall be incorporated into and become fully enforceable under this Order.

c. Respondents shall not perform any Work except in conformance with the terms of this Order. Respondents shall not commence implementation of the RAWP developed hereunder until receipt of written EPA approval pursuant to Section VII of this Order.

d. Implementation. Within fourteen (14) days after receipt of EPA's approval of the RAWP, or of a RAWP developed by EPA, Respondents shall implement the RAWP in accordance with the schedule contained therein.

29. Quality Assurance Project Plan.

a. Within forty-five (45) days of the Effective Date of this Order, Respondent Raytheon shall submit to EPA for review and approval a Quality Assurance Project Plan ("QAPP") developed in accordance with Section II.B of the SOW.

b. Once approved, or approved with modifications, the QAPP and any subsequent modifications shall be incorporated into and become fully enforceable under this Order.

30. Sampling and Analysis Plan.

a. Within forty-five (45) days of the Effective Date of this Order, Respondent Raytheon shall submit to EPA for review and approval a Sampling and Analysis Plan ("SAP") developed in accordance with Section II.C of the SOW.

b. Once approved, or approved with modifications, the SAP and any subsequent modifications shall be incorporated into and become fully enforceable under this Order.

31. Health and Safety Plan.

a. Within forty-five (45) days after the Effective Date of this Order and before any field work under this Order commences, Respondent Raytheon shall submit to EPA for review and comment a plan that ensures the protection of the public health and safety during performance of Work under this Order ("Health and Safety Plan" or "HASP") developed in accordance with Section II.D of the SOW.

32. Reporting.

a. Respondent Raytheon shall submit written monthly progress reports to EPA on or before the 10th day of each month, starting with the first full month following the Effective Date of this Order and continuing until the Removal Action Report is approved by EPA. The monthly progress reports shall include, at a minimum, the information identified in Sectin IV.A of the SOW.

b. Each Respondent shall submit copies of all plans, reports or other submissions required of it by this Order in accordance with Paragraph 40 of Section VIII (Submittals/Designated Project Coordinators) of this Order.

33. Removal Action Report.

a. Within thirty (30) days after completion of all Work required by this Order, Respondent Raytheon shall submit to EPA for review and approval a Removal Action Report ("RAR") summarizing the actions taken to comply with this Order. The RAR shall include, but not be limited to, the information described in Section IV.B of the SOW.

b. The RAR shall also include the following certification signed by a person who supervised or directed the preparation of the RAR:

> "Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved with the preparation of this report, the information submitted is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

34. Off-Site Shipments.

a. Respondent Raytheon shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed ten (10) cubic yards.

i. Respondent Raytheon shall include in the written notification the following information: (A) the name and location of the facility to which the Waste Material is to be shipped; (B) the type and quantity of the Waste Material to be shipped; (C) the expected schedule for the shipment of the Waste Material; and (D) the method of transportation. Respondent Raytheon shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

ii. The identity of the receiving facility and state will be determined by Respondent Raytheon following award of the contract for the removal action. Respondent Raytheon shall provide the information required by Paragraphs 34.a and 34.b as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants or contaminants from the Site to an off-Site location, Respondent Raytheon shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent Raytheon shall only send hazardous substances, pollutants or contaminants from the Site to an off-Site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

VII. EPA REVIEW OF SUBMISSIONS

35. After review of any plan, report or other deliverable which is required to be submitted for approval pursuant to this Order, including a resubmission, EPA shall, in writing: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) disapprove, in whole or in part, the submission, directing that the submitting Respondent modify the submission; (d) disapprove, in whole or in part, the submission, notifying the submitting Respondent of the deficiencies and EPA's decision to modify or develop the required deliverable; or (e) any combination of the above.

36. In the event of approval or an undisputed approval upon specified conditions by EPA pursuant to Paragraph 35(a) or (b), the Respondents shall proceed to take any action required by the plan, report or other deliverable as approved by EPA.

37. Notice of Disapproval.

a. Upon receipt of a notice of EPA disapproval pursuant to Paragraph 35(c), the submitting Respondent shall, within thirty (30) days (or such additional time as specified by EPA in such notice) correct the deficiencies and resubmit the plan, report or other deliverable to EPA for approval.

b. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 35(c) or (d), the submitting Respondent shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission.

38. Resubmissions. In the event a resubmitted plan, report or other deliverable, or portion thereof, is disapproved by EPA, EPA may again require the submitting Respondent to correct the deficiencies, in accordance with this Section. The EPA also retains the right to

modify or develop the plan, report or other deliverable. The submitting Respondent shall implement any such plan, report or deliverable as modified or developed by EPA.

39. All plans, reports and other deliverables required to be submitted to EPA under this Order shall, upon approval, modification or development by EPA, be enforceable under this Order. In the event EPA approves, modifies or develops a portion of a plan, report or other deliverable required to be submitted to EPA under this Order, the approved, modified or developed portion shall be enforceable under this Order.

VIII. SUBMITTALS/DESIGNATED PROJECT COORINATORS

40. All documents, including plans, reports and other submissions to be submitted by Respondents pursuant to this Order shall either be hand-delivered or sent by certified mail, return receipt requested, or overnight delivery to the following individuals or such other individuals as EPA may designate in writing. Three (3) copies of all documents to be submitted to EPA shall be sent to EPA's Project Coordinator:

William W. Bunn
Superfund Division
Region VII
U.S. Environmental Protection Agency
901 North 5th Street
Kansas City, Kansas 66101
Telephone (913) 551-7792
Facsimile (913) 551-7063

One copy of each document Respondent is required to submit to EPA pursuant to this Order shall also be sent to:

Rick L. Bean
Chief, Remedial Section
Bureau of Environmental Remediation
Kansas Department of Health and Environment
1000 SW Jackson Street, Suite 410
Topeka, Kansas 66612-1367

41. Within ten (10) days after the Effective Date, each Respondent shall designate a Project Coordinator, who shall be responsible for administration of all actions required of that Respondent under this Order, and submit to EPA the designated Project Coordinator's name, address, telephone number and qualifications. To the greatest extent possible, each Respondent's

Project Coordinator shall be present at the Site or readily available during implementation of the Work required of that Respondent. The EPA retains the right to disapprove of Respondents' designated Project Coordinators. If EPA disapproves of a Respondent's designated Project Coordinator, that Respondent shall designate a different Project Coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within ten (10) days of receipt of EPA's disapproval. Respondents' Project Coordinators shall be the recipient of all approvals, disapprovals, notifications and other correspondence from EPA. Receipt by a Respondent's approved Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by that Respondent.

42. To the maximum extent possible, communications between Respondents and EPA shall be directed through the Project Coordinators.

43. The EPA and Respondents shall have the right to change their respective Project Coordinator. A Respondent shall notify EPA ten (10) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by written notice. The EPA will provide Respondents with timely notice upon any change in its designated Project Coordinator.

44. EPA's Project Coordinator shall have the authority granted an On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's Project Coordinator, or any other EPA OSC, shall have the authority consistent with the NCP to halt, conduct or direct any action required by this Order, or direct any other action which he or she determines to be necessary to protect public health or welfare or the environment. The absence of the EPA Project Coordinator or OSC from the Site pursuant to this Order shall not be cause for the stoppage or delay of Work, unless specifically directed by the EPA Project Coordinator or OSC.

IX. SITE ACCESS

45. If the Site, or any other property where access is needed to implement this Order, is owned or controlled by either Respondent, that Respondent shall, commencing on the Effective Date, provide EPA and its authorized representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Order.

46. Where any action under this Order is to be performed in areas owned by or in possession of someone other than Respondents, Respondent City shall use its best efforts to obtain all necessary access agreements within forty-five (45) days of the Effective Date, or as otherwise specified by the EPA Project Coordinator. Such agreements shall provide access for EPA and each Respondent and their authorized representatives for the purpose of conducting any activity related to this Order. In the event that any such access agreement is not obtained within the above time period, Respondent City shall notify EPA in writing of its failure to obtain access and describe its efforts to obtain such access. The EPA may, as it deems appropriate, assist Respondent City in obtaining access to the extent necessary to effectuate the response actions described herein.

47. Notwithstanding any provision of this Order, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA and any other applicable statute or regulation.

X. ACCESS TO INFORMATION

48. Upon request, Respondents shall provide to EPA copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling analyses, chain of custody records, manifests, trucking logs, receipts, reports, correspondence or other documents or information related to the Work.

49. A Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Order to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified the Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents of information without further notice to the Respondent.

50. Respondents may assert that certain documents, records and other information are privileged under the attorney work-product privilege, attorney-client privilege or any other privilege or protection from disclosure that is recognized by Federal law. If a Respondent asserts such a privilege in lieu of providing documents, that Respondent shall provide EPA the following: (a) the title of the document, record or information; (b) the date of the document, record or information; (c) the name and title of the author of the document, record or information; (d) the name and title of each addressee and recipient; (e) a description of the contents of the document, record or information; and (f) the privilege asserted by the Respondent. However, no document, record or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that it is privileged.

51. No claim of confidentiality shall be made with respect to any plan, design or any other submission prepared and submitted pursuant to this Order. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical or engineering data, or any other documents or information evidencing conditions at or around the Site.

XI. RECORD PRESERVATION

52. Until ten (10) years after Respondents' receipt of EPA's notification pursuant to Section XXII (Notice of Completion of Work) of this Order, each Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate or other retention policy to the contrary. Until ten (10) years after Respondents' receipt of EPA's notification pursuant to Section XXII (Notice of Completion of Work), each Respondent shall also instruct its contractors and agents to preserve all documents, records or information of whatever kind, nature or description relating to performance of the Work.

53. At the conclusion of this ten (10) year document retention period, a Respondent shall notify EPA at least ninety (90) days prior to the destruction of any such record or document, and, upon request by EPA, that Respondent shall deliver any such record or document to EPA. A

Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by Federal law. If that Respondent asserts such a privilege in lieu of providing documents, the Respondent shall provide EPA the following: (a) the title of the document, record or information; (b) the date of the document, record or information; (c) the name and title of the author of the document, record or information; (d) the name and title of each addressee and recipient; (e) a description of the contents of the document, record or information; and (f) the privilege asserted by the Respondent. However, no document, record or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that it is privileged.

54. Each Respondent hereby certifies that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by EPA and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XII. COMPLIANCE WITH OTHER LAWS

55. Each Respondent shall perform all actions required of it under this Order in accordance with all applicable local, state and Federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-Site actions required pursuant to this Order shall, to the extent practicable as determined by EPA considering the exigencies of the situation, attain applicable or relevant and appropriate requirements ("ARARs") under Federal environmental or state environmental or facility siting laws.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

56. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent Raytheon shall immediately take all appropriate action. Respondent Raytheon shall take these actions in accordance with all applicable provisions of this Order, including, but not

limited to, the HASP, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent Raytheon shall also immediately notify the EPA Project Coordinator or, in the event of his/her unavailability, the EPA Regional Duty Officer on the twenty-four spill line (913-281-0991) of the incident or Site conditions.

57. In addition, in the event of any release of a hazardous substance from or at the Site, Respondent Raytheon shall immediately notify the EPA Project Coordinator and the National Response Center at (800) 424-8802. Respondent Raytheon shall submit a written report to EPA within seven (7) days after each such release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004 *et seq*.

XIV. DELAY IN PERFORMANCE

58. Any delay in performance of this Order that, in EPA's judgement, is not properly justified by Respondents under the terms of this Section shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondents' obligations to fully perform all obligations under the terms and conditions of this Order.

59. A Respondent shall notify EPA of any delay or anticipated delay in performing any of its requirements under this Order. Such notification at all be made by telephone to EPA's Project Coordinator within forty-eight (48) hours after the Respondent first knew or should have known that a delay might occur. The Respondent shall adopt all reasonable measures to avoid or minimize any such delay. Within five (5) business days after notifying EPA by telephone, the Respondent shall provide written notification fully describing the nature of the delay, any justification for delay, any reason why the Respondent should not be held strictly accountable for failing to comply with any relevant requirement of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the measures that will be taken to mitigate the effect of the delay. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

XV. ENFORCEMENT: PENALTIES FOR NONCOMPLIANCE

60. Violation of any provision of this Order may subject a Respondent to civil penalties of up to thirty-two thousand dollars ($32,000) per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1). Respondents may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Should a Respondent violate this Order or any portion hereof, EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606.

XVI. RESERVATION OF RIGHTS BY EPA

61. Except as specifically provided in this Order, nothing herein shall limit the power and authority of EPA or the United States to take, direct or order all actions necessary to protect public health, welfare or the environment or to prevent, abate or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law. The EPA reserves the right to bring an action against Respondents under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States in connection with this Order or the Site and not reimbursed by Respondents.

XVII. UNITED STATES NOT LIABLE

62. The United States, by issuance of this Order, assumes no liability for any injuries or damages to persons or property resulting from acts or omissions by Respondents, or their directors, officers, employees, agents, representatives, successors, assigns, contractors or consultants in carrying out any action or activity pursuant to this Order. Neither EPA nor the United States may be deemed to be a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, assigns, contractors or consultants in carrying out any action or activity pursuant to this Order.

XVIII. OTHER CLAIMS

63. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any act or omission of Respondents. Neither the United States nor EPA shall be deemed to be a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors or consultants in carrying out actions pursuant to this Order.

64. This Order does not constitute a pre-authorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

65. Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including, but not limited to, any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

XIX. ASSURANCE OF ABILITY TO COMPLETE WORK

66. Respondent Raytheon shall demonstrate its ability to complete the Work required by this Order and to pay all claims that arise from the performance of the Work by obtaining and presenting to EPA, within thirty (30) days after approval of the RAWP, one of the following: (a) a performance bond; (b) a letter of credit; (c) a guarantee by a third party; or (d) internal financial information to allow EPA to determine that Respondent Raytheon has sufficient assets available to perform the Work. Respondent Raytheon shall demonstrate financial assurance in an amount no less than the estimate of cost of the Work Respondent Raytheon is required to complete under this Order. If Respondent Raytheon seeks to demonstrate ability to complete the Work by means of internal financial information, or by guarantee of a third party, Respondent Raytheon shall re-submit such information annually, on the anniversary of the Effective Date of this Order. If EPA determines that such financial information is inadequate, Respondent Raytheon shall, within thirty (30) days after receipt of EPA's notice of determination, obtain and present to EPA for approval one of the other three forms of financial assurance listed above.

XX. INSURANCE

67. At least seven (7) days prior to commencing any on-Site Work under this Order, Respondent Raytheon shall secure, and shall maintain for the duration of this Order, comprehensive general liability insurance and automobile insurance with limits of $5,000,000, combined single limit. Within the same time period, Respondent Raytheon shall provide EPA with certificates of such insurance and a copy of each insurance policy. In addition, for the duration of the Order, both Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing Work on behalf of a Respondent in furtherance of this Order. If Respondent Raytheon demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondent Raytheon need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXI. MODIFICATION

68. Modifications to any plan or schedule or Attachment 5 (Statement of Work) may be made in writing by the EPA Project Coordinator or at the EPA Project Coordinator's or OSC's oral direction. Any oral modification will be memorialized in writing by EPA promptly, but shall have as its effective date the date of EPA's Project Coordinator's or OSC's oral direction. Any other requirement of this Order may be modified in writing by mutual agreement of the Parties.

69. If a Respondent seeks permission to deviate from an approved work plan or schedule or Statement of Work, that Respondent's Project Coordinator shall submit a written request to EPA's Project Coordinator for approval, outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the EPA Project Coordinator pursuant to Paragraph 68.

70. No informal advice, guidance, suggestion or comment by EPA regarding reports, plans, specifications, schedules or any other writing submitted by a Respondent shall relieve that Respondent of its obligations to obtain such formal approval as may be required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

XXII. NOTICE OF COMPLETION OF WORK

71. When EPA determines, after its review of the Removal Action Report, that all Work has been fully performed in accordance with this Order, with the exception of any continuing obligations required by this Order, including Section XI (Record Preservation) and Section XVI (Reservation of Rights by EPA), EPA will provide written notice to Respondents. If EPA determines that any such Work has not been completed in accordance with this Order, EPA will notify Respondents, provide a list of the deficiencies, and require the applicable Respondent to modify the work plan, if appropriate, in order to correct such deficiencies. The Respondent receiving such written notice shall implement the modified and approved work plan and shall submit a modified Removal Action Report in accordance with the EPA notice. Failure by any Respondent to correct the deficiencies or to implement the approved modified work plan shall be a violation of this Order.

XXIII. ACCESS TO ADMINISTRATIVE RECORD

72. The Administrative Record supporting the actions required by this Order is available for review at EPA's Regional Office, 901 North 5th Street, Kansas City, Kansas, and the Herington Public Library, located at 102 S. Broadway, Herington, Kansas.

XXIV. OPPORTUNITY TO CONFER

73. Within seven (7) days after receipt of this Order, either Respondent may request a conference with EPA. Any such conference shall be held prior to the Effective Date of this Order unless extended by EPA. At the conference held pursuant to a Respondent's request, the Respondent may appear in person or be represented by an attorney or other representative.

74. If a conference is held, the Respondent may present any information, arguments or comments regarding this Order. A Respondent may submit any information, arguments or comments in writing to EPA within fourteen (14) days of receipt of this Order if no conference is requested. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give any Respondent a right to seek review of this Order. Requests for a conference, or any written submission under this Paragraph, shall be directed to J. Scott Pemberton, Senior Assistant Regional Counsel, at (913) 551-7276, Office of Regional Counsel, 901 North 5th Street, Kansas City, Kansas 66101.

XXV. SEVERABILITY

75. If a court issues an order that invalidates any provision of this Order or finds that a Respondent has sufficient cause not to comply with one or more provisions of this Order, that Respondent shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

XXVI. EFFECTIVE DATE

76. This Order shall become effective on the tenth (10th) day after Respondents' receipt of this Order, unless a conference is requested as provided herein. If a conference is requested, this Order shall become effective on the twenty-first (21st) day after Respondents' receipt of this Order, unless modified in writing by EPA.

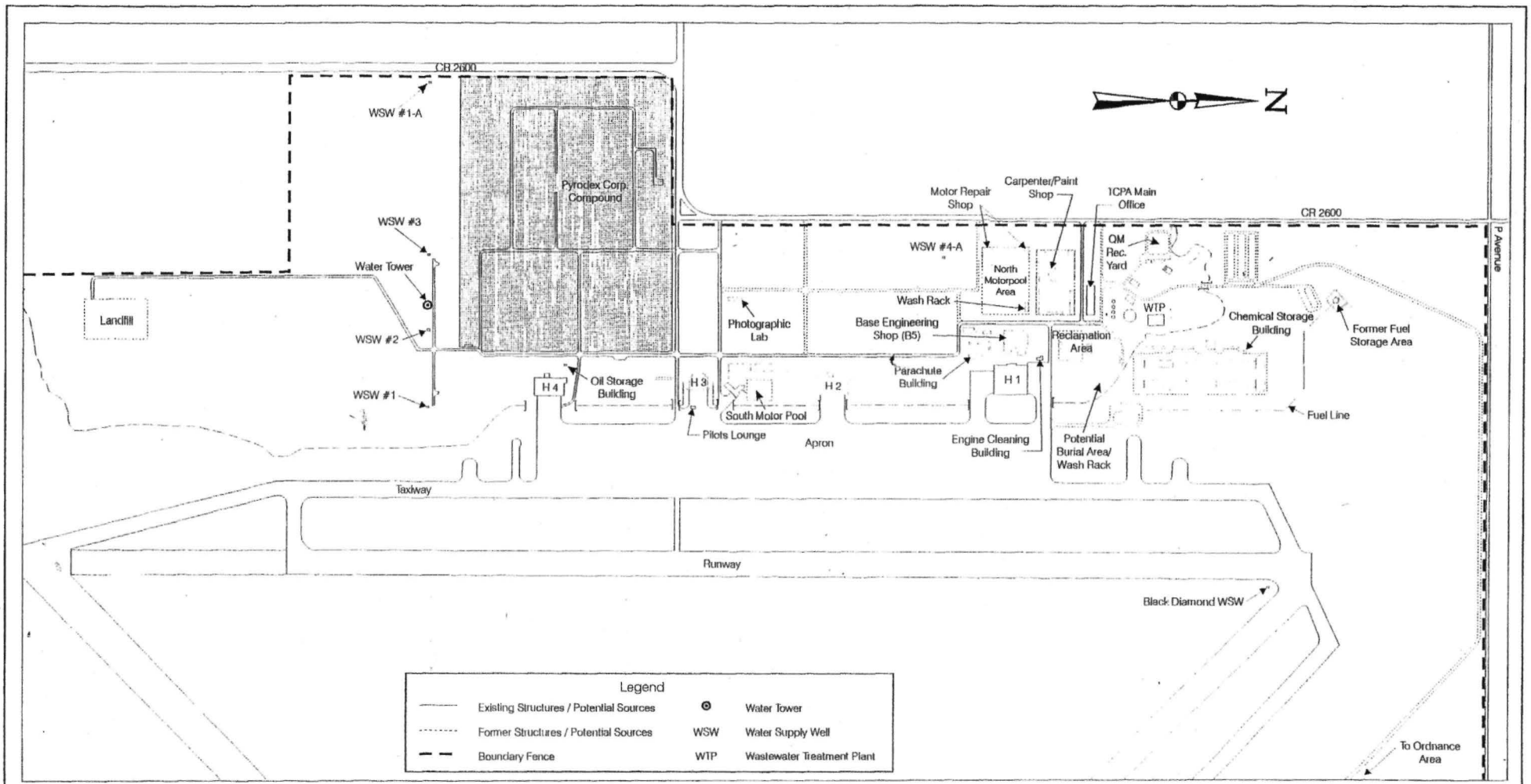
IT IS SO ORDERED

BY: _____ DATE: 9/30/04

Cecilia Tapia
Director
Superfund Division

BY: _____ DATE: September 30, 2004

J. Scott Pemberton
Senior Assistant Regional Counsel
Office of Regional Counsel



SCALE (feet)
500 0 500 1,000

TDD: S07-9705-009
PAN: 0533TCSRXX
Prepared by L.J.Baer
February 1999

ecology and environment, Inc.

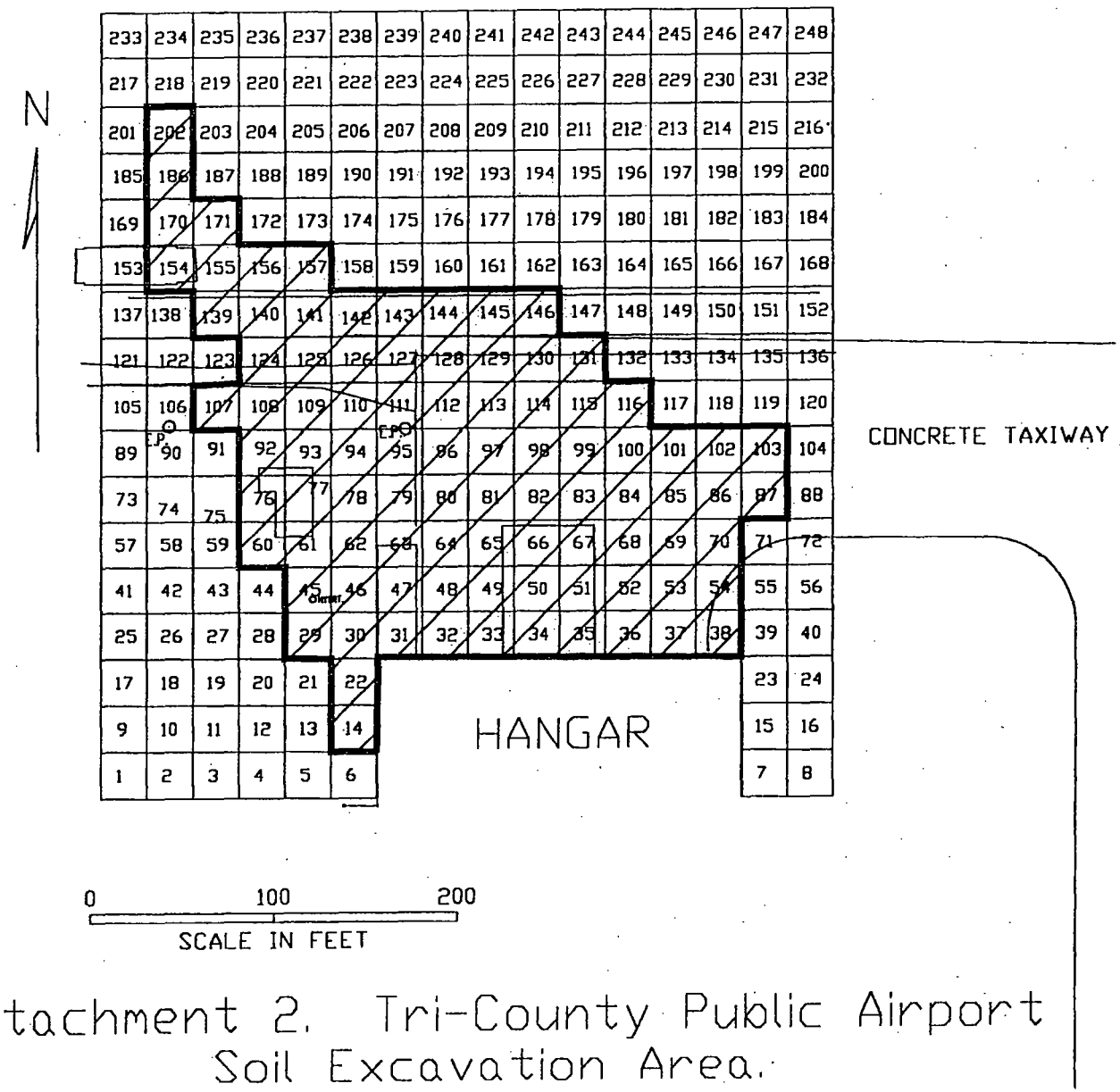
Tri-County Public Airport
Herlington, Kansas

Attachment 1
Site Map

Region 7 United States
Environmental Protection Agency

fc: f2-2.cdr

Source: War Department; Office of the Post Engineer, 1943.



Attachment 2. Tri-County Public Airport
Soil Excavation Area.

ATTACHMENT 3

PRELIMINARY REMEDIATION GOALS
TRI-COUNTY PUBLIC AIRPORT SITE

Chemical	Subsurface Soil (ug/kg) *
cis-1,2-Dichloroethylene	800
trans-1,2-Dichloroethylene	1,500
Trichloroethylene	200
Vinyl Chloride	20

* - Risk Based Standards for Kansas, RSK Manual - 3rd Version, March 1, 2003 - Soil to Ground Water Protection Pathway

ATTACHMENT 4

TRI-COUNTY PUBLIC AIRPORT SITE

REMOVAL ACTION MEMORANDUM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101
30 SEP 2004

ENFORCEMENT ACTION MEMORANDUM

SUBJECT: Request for Potentially Responsible Party (PRP)-Lead Non-Time-Critical Removal Action at the Tri-County Public Airport Site, Morris County, Kansas

FROM: Don Lininger, On-Scene Coordinator
Enforcement/Fund-Lead Removal Branch

THRU: Kenneth S. Buchholz, Chief
Enforcement/Fund-Lead Removal Branch

TO: Cecilia Tapia, Director
Superfund Division

CERCLIS ID:	KS0001402320
SITE ID:	O7XS
CATEGORY OF REMOVAL:	Non-Time-Critical
NATIONALLY SIGNIFICANT:	No

I. PURPOSE

The purpose of this Action Memorandum is to request approval for a non-time-critical removal action at the Hangar 1 area portion of the Tri-County Public Airport (TCPA) site located in rural Morris County, Kansas. The removal action will consist of excavation and off-site disposal of contaminated soils within an engineered disposal cell. Property adjacent to the Hangar 1 area where the soil contains trichloroethylene (TCE), dichloroethylene (DCE), or vinyl chloride concentrations that are equal to, or greater than, preliminary remediation goals will be included in the removal action. It is anticipated that excavated soils will not be treated prior to disposal. Soils would be excavated and transported directly off-site with minimal on-site staging and storage. The excavated soil may be used as daily cover material at the disposal facility, providing for beneficial use of the soil. Areas subject to excavation would be backfilled with clean fill material which would be properly compacted and placed at an elevation suitable for use as a sub-base for the replaced surface. Original surfaces (concrete, gravel, etc.) would be replaced and suitable grading would be maintained or improved, if appropriate, to facilitate surface runoff.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

1. Nature and Extent of Contamination

Investigations conducted by the United States Army Corps of Engineers (USACE), the U.S. Environmental Protection Agency (EPA), and the Kansas Department of Health and Environment (KDHE) have detected TCE in groundwater at concentrations above the federal maximum contaminant level (MCL) of 5 micrograms per liter (µg/L) in drinking water supplies. The TCE plume extends about 5 miles to the northwest of the airport and has contaminated 23 private drinking water wells. The TCE contamination in the drinking water supplies is currently being removed by whole house filtration units using carbon. The highest concentrations of TCE and its degradation products (cis-1,2-dichloroethene and vinyl chloride) were detected in soil in the vicinity of Hangar 1 at levels above the Kansas Tier 2 risk-based numbers (RSK).

In 1998 the EPA initiated an Expanded Site Investigation/Remedial Investigation (ESI/RI) at the site with fieldwork conducted in two phases. Phase 1 included a spring/seep survey, off-site sampling, and a geophysical survey of two areas on-site. Phase 2 included source and pathway characterization on and off the site. The primary objectives of Phase 2 were to verify that a release of TCE had occurred, determine the source areas, and characterize the vertical and areal extent of contamination. The characterization of potential source areas involved the collection of 312 field analytical soil samples, as well as the collection of 67 soil samples which were submitted for laboratory analysis. The characterization of groundwater included the installation and sampling of 30 monitoring wells on and off the site in three aquifers, the sampling of 10 USACE wells, and the sampling of 43 water supply wells in the surrounding area. The characterization of surface water included the collection and analysis of 17 surface water samples and 9 spring and seep samples from the Clarks Creek drainage basin.

The highest surface soil concentration of TCE detected during the ESI/RI was 88 micrograms per kilogram (µg/kg) from the northwest side of Hangar 1. The highest soil contamination at Hangar 1 was detected at a depth of 1-2 feet beneath the concrete adjacent to the northwest corner of the hangar with TCE detected at a concentration of 2,300,000 µg/kg. In the Hangar 1 area, cis-1,2-DCE concentrations ranged from 34 µg/kg to 140,000 µg/kg and vinyl chloride concentrations ranged from 48 µg/kg to 12,000 µg/kg.

The ESI/RI analytical results verify that off-site water supply wells to the north and northwest of the site have been impacted by volatile organic contaminants (VOCs), primarily TCE. In water supply wells, TCE was detected in concentrations ranging from 1.8 to 280 µg/L. The highest TCE concentration detected in a water supply well used for human consumption was 56 µg/L located north of the site. The EPA believes the soil contamination in the area of Hangar 1 was, and continues to be, a source of the groundwater contamination.

Monitoring wells installed during the ESI/RI verified that the site is underlain by a succession of shale and limestone aquifers. Four separate ground water aquifers lie beneath the site. These aquifers are used for private drinking water and agricultural purposes. Analytical results from the off-site monitoring well samples indicate that the TCE is migrating northwest in the Cresswell, Stovall, and Towanda aquifers. VOCs, including TCE, were not detected in the background monitoring wells installed in the site. The majority of the on-site monitoring wells contained VOCs and, in particular, TCE. Water level data demonstrated that the predominant horizontal groundwater flow direction is the north-northwest in the direction of Latimer. There are no municipal systems drawing ground water from within 4 miles of the airfield; however, 92 private wells have been identified within this area. The results from springs and seeps demonstrated the release of TCE to surface water with TCE concentrations ranging from 0.699 to 12.7 µg/L. Results of water supply well and spring and seep samples verify the presence of a corridor of contaminated groundwater to the north and northwest of the site.

In December, 2000 a Consent Order was signed by the Raytheon Aircraft Company (RAC) and the KDHE for purposes of conducting a Remedial Investigation/Feasibility Study (RI/FS). Under the KDHE Consent Order, a total of 133 soil borings were completed as part of the RI. In the area of Hangar 1, sixty-five (65) soil samples were obtained from 21 soil borings. The primary contaminants detected were TCE and its degradation products, cis-1,2-DCE and vinyl chloride. Vinyl chloride was detected at 15,000 µg/kg at 1 foot below the concrete pad of the loading dock. The KDHE RSK for soil exposure in a non-residential setting is 540 µg/kg. Twenty-three samples had detections of vinyl chloride above the soil to ground water protection pathway RSK of 20 µg/kg. The highest vinyl chloride concentration was 24,000 µg/kg at 12 feet at the northwest corner of Hangar 1. Concentrations of DCE ranged from 660 to 300,000 µg/kg in the same area. The soil to ground water protection pathway RSK for DCE is 800 µg/kg. Concentrations of TCE ranged up to 300,000 µg/kg. The soil to groundwater protection pathway RSK for TCE is 200 µg/kg. These results confirm the results reported in the ESI conducted by the EPA in 1998.

The Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the EPA Region 7 to conduct removal assessment activities at the TCPA site. These assessment activities were conducted in May 2003 and were focused on the Hangar 1 source area. Subsurface soil, air, and ground water samples were collected and an Soil Vapor Extraction (SVE) pilot was conducted during the removal assessment. TCE, cis-1,2-DCE and vinyl chloride were detected in the soil samples. TCE was detected at a maximum concentration of 20 µg/kg. Vinyl chloride was detected at 2,500 µg/kg and DCE at 970 µg/kg. The total contaminant mass in the area north of Hangar 1 was estimated from this data with values of 160 pounds of vinyl chloride, 2,817 pounds of TCE, and 1,179 pounds of cis 1,2-DCE. In the perched ground water samples collected TCE was detected at 15,000 µg/l, 1,2-DCE at 55,000 µg/l, and vinyl chloride at 31,000 µg/l.

Two samples were collected for Toxicity Characteristic Leaching Procedure (TCLP) analysis from the areas with the highest field photoionization detector (PID) readings for VOCs

during the removal assessment. The TCLP results from these samples did not exceed regulatory levels for a characteristic hazardous waste.

TCE was detected in two air samples located in the U.S. Stone facility. TCE was detected at a concentration of 0.47 micrograms per cubic meter ($\mu g/m^3$) and 1,2-DCE at 0.12 $\mu g/m^3$ in the northwest office. TCE was detected at a concentration of 0.22 $\mu g/m^3$ in the northeast corner of the building. TCE was not detected in the other two samples which were collected in the northwest corner of the building and the break room.

Between June 1, 2004, and July 2, 2004, KDHE and EPA personnel conducted field activities in the Hangar 1 area. One hundred nineteen (119) soil samples were collected from forty nine (49) grid locations on the north and west side of Hangar 1 to better define the extent of contamination to be excavated. The City of Herington also identified a potential borrow area to be utilized as backfill for the excavated area. The borrow area is located approximately one thousand three hundred (1,300) feet northeast of Hangar 1. Ten (10) soil samples were collected from five (5) locations in the borrow area to determine if the soil is suitable for backfill.

2. Physical Location

The TCPA site is located approximately 7 miles east of the city of Herington, Morris County, Kansas. The geographic coordinates at the approximate center of the site are latitude 38° 41' 46.4" N and longitude 96° 48' 41.7" W. The TCPA site is located on the Delavan Kansas Quadrangle 7.5-minute Topographic Map within the Sections 31 and 32, Township 15 South, Range 6 East, and Sections 5 and 6 Township 16 South, Range 6 East. To reach the site from U.S. Highway 56: take County Road 2600 located approximately 0.25 mile west of Delavan, Kansas, and go north approximately 2.75 miles and the airport lies on the east side of the county road.

The total area of the Tri-County Airport site property, including the open and former runways, is approximately 3.5 square miles. The site property excluding the runways is irregular, but generally takes the shape of a rectangle approximately 0.5 miles east to west by 1.5 miles north to south. The nearest communities are Herington approximately 7 miles to the west, Delavan approximately 2 miles to the south, and Latimer approximately 2.5 miles to the northwest.

3. Site Characteristics

The TCPA facility comprises approximately 3.5 square miles and is located in Morris County, Kansas. The TCPA was originally constructed as the Herington Army Airfield (HAAF) in 1942 and was officially declared surplus in 1946. The airfield property and buildings were quit-claimed by deed to the City of Herington in 1948. Most of the 300 buildings and structures associated with HAAF have been razed or removed. From 1948 to the present, the site has been used by a number of companies for various purposes. Operations have included aircraft restoration, plane storage, and manufacturing of farm implements, black powder, roofing

materials, and stone cutting. From 1950 to the early 1960s, Beech Aircraft (Beech) leased all four hangars and several other buildings at the site. In 1980, RAC acquired Beech. Operations conducted by Beech at the site consisted of a chromium conversion coat process, vapor degreasing, painting, paint stripping, wing-tank manufacturing, aircraft refurbishing, aluminum processing, aircraft starter generator manufacturing, and steel wing-tank shipping container manufacturing. According to RAC, two TCE degreasers were used by Beech, one in Hangar 1 and one in Hangar 4. The TCE was stored in 55-gallon drums in a building located northwest of Hangar 1. The specific storage building and building identification number is not known. The disposal method and usage amounts of TCE by Beech are not known. Beech also reportedly used a paint stripper of unknown chemical identity to remove paint from airplane wings in the northwest corner of Hangar 1.

U.S. Stone Industries is located in the northern most hangar (Hangar 1) and initiated operations at this facility in December 2001. U.S. Stone Industries manufactures stone products at the facility from quarried stone blocks. Production includes cutting, surfacing, splitting, and shaping stone to dimensions specified by U.S. Stone Industries clients. Three lagoons are utilized for treating waste water produced from stone cutting operations. The wastewater contains stone cutting materials in suspension and the lagoons are used for purposes of settling the stone fines out of the water prior to discharge. The lagoons are located south of the U.S. Stone Industries facility.

At the TCPA site the overburden of loess and highly weathered bedrock ranges in thickness from 8 to 15 feet. The uppermost bedrock unit underlying the overburden at higher elevations on the south and central portions of the site was the Herington Limestone. Aquifers encountered at the site include the Cresswell, Stovall, and Towanda Limestone Aquifers which have a primary horizontal flow direction to the northwest. Perched water is found in soils at the TCPA Hangar 1 area.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

Hazardous substances as defined by Section 101 (14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, have been detected in the soil and groundwater at the site. These include TCE, DCE, and vinyl chloride. The term release, as defined in CERCLA Section 101 (22), means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment. Samples collected during the EPA ESI/RI detected the highest on-site VOC soil concentrations near the Hangar 1 source area with TCE concentrations ranging from 6 µg/kg to 2,300,000 µg/kg. The TCE contamination detected in various samples exceeded the KDHE Tier 2 RSK soil to groundwater protection pathway value of 200 ug/kg. Numerous monitoring well and residential well samples contained contaminants at concentrations significantly above the MCL. The 1998 EPA ESI/RI analytical results verify that off-site water supply wells to the north and northwest of the site have been impacted by VOCs, primarily TCE. In water supply wells, TCE was detected in concentrations ranging from 1.8 to

280 µg/L. During the 1998 EPA ESI/RI, groundwater samples were collected from 40 monitoring wells located both on and off the site and TCE was reported in 31 of the monitoring wells. Approximately 23 water supply wells used for human consumption exceed the MCL for TCE.

5. National Priorities Listing (NPL) Status

The site was proposed to the National Priorities List on July 27, 2000, based on evidence of groundwater contamination by chlorinated solvents.

6. Maps, Pictures, and Other Graphic Representations

Attached is Figure 1 which identifies the location of the site. Figure 2 identifies the approximate extent of soil contamination in the Hangar 1 area that requires excavation.

B. Other Actions to Date

1. Previous Actions

On November 3, 1997, the EPA issued an Action Memorandum for the TCPA site which made the determination that a release of hazardous substances had occurred. TCE and/or carbon tetrachloride were found in 20 private drinking water wells above the MCLs of 5 µg/L. The Action Memorandum stated that the EPA was the only immediate avenue for providing whole house treatment systems and/or bottled water for those wells where the MCL for TCE was exceeded. The objective of the removal action was to reduce TCE exposure to residents with contaminated drinking water wells. Under the provisions of the Action Memorandum the EPA provided bottled drinking water to approximately eighteen residences where drinking water was found to exceed the MCL for TCE of 5 µg/l. The bottled water was provided from November 1997 until January 24, 2001. One residence, with concentrations of TCE over 100 µg/l, was provided with a whole house carbon filtration system as the result of an October 6, 1997, health consult from the Agency for Toxic Substances and Disease Registry (ATSDR).

2. Current Actions

In March 2000 the RAC and the EPA entered into an Administrative Order on Consent (AOC), Docket No. CERCLA-7-2000-0013 pursuant to Sections 104 and 122 of the CERCLA. The 2000 AOC required that the RAC provide water treatment systems for residences with water supply wells exceeding the maximum MCL for TCE and degradation products. The objective of the removal action was to reduce TCE exposure to residents with contaminated drinking water wells. The systems which utilized carbon filtration were installed in 23 residences whose drinking water source exceeded the MCL for TCE. Under this agreement, the RAC was to maintain the water treatment systems and conduct quarterly monitoring of the treatment systems and additional residential water supply wells, to assure that all residences with

water that exceeded the MCL for TCE had water treatment systems installed. Project costs have not been provided to the EPA.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

In May 1996, the KDHE completed a preliminary assessment/screening site inspection (PA/SSI) of the TCPA site in response to the detection of TCE during the USACE investigation. This study included a background search for potential sources, the sampling of selected USACE groundwater monitoring wells, and a limited investigation of the surface water, soil, and air pathways.

The KDHE conducted a Supplemental Sampling Assessment (SSA) at the TCPA in 2001. The SSA was conducted to evaluate three potential source areas identified in previous investigations including the Hangar 1 area. The areas sampled were advanced at, or immediately downslope, of Hangar 1.

In December, 2000 a Consent Order was signed by the RAC and the KDHE pursuant to the Kansas Environmental Response Act (K.S.A. 65-32a et seq). for purposes of conducting a Remedial Investigation/Feasibility Study (RI/FS). The objectives of the RI/FS are: 1) determine the nature and areal extent of environmental contamination, 2) evaluate the threat to public health and environment, 3) characterize geological properties of the affected soils and aquifers, and 4) evaluate remedial alternatives for corrective action. On September 24, 2001, the KDHE approved RAC's Work Plan to conduct a RI/FS. As of April 2003 a total of 133 soil borings had been completed as part of the RI. Additional RI/FS work is ongoing with the KDHE oversight.

2. Potential for Continued State/Local Response

The state lacks the resources to conduct the removal action to address a source of groundwater contamination at the site. The KDHE is expected to remain involved in future activities at the site including additional removal assessments and long-term operation and maintenance. The EPA will coordinate all federal activities associated with this removal action with the KDHE and local officials.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The site conditions pose a significant threat to the public health and welfare that meet the criteria for a removal action under 40 C.F.R. 300.415(b)(2) of the National Contingency Plan (NCP).

A. Threats to Public Health or Welfare

300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants.

Samples collected during the EPA ESI/RI detected on-site VOC soil concentrations near the Hangar 1 source area with TCE concentrations up to 2,300,000 µg/kg. The TCE contamination detected in various samples exceeded the KDHE Tier 2 RSK soil to groundwater protection pathway value of 200 µg/kg. Numerous monitoring well and residential well samples contained contaminants at concentrations significantly above the MCL. The EPA ESI/RI analytical results verify that off-site water supply wells to the north and northwest of the site have been impacted by VOCs, primarily TCE. During the EPA ESI/RI, groundwater samples were collected from 40 monitoring wells located both on-site and off-site. TCE was reported in 31 of the monitoring wells. TCE was detected in 25 water supply well samples, and the concentration in 22 of the samples exceeded the TCE MCL of 5 µg/L. Approximately 23 water supply wells used for human consumption exceed the MCL for TCE.

Results from the EPA ESI/RI indicated that eight spring or seep samples contained TCE ranging in concentrations from 0.699 µg/L to 12.7 µg/L. Seven of the contaminated springs and seeps lie to the northwest of Latimer and the remaining contaminated seep is located to the northeast of the community. The results show that the groundwater discharging to surface water in the Clarks Creek drainage basin has been impacted by TCE, the likely source of which is the TCPA site.

Hazardous substances as defined by CERCLA have been detected in the soil and groundwater at the site which include TCE, DCE, and vinyl chloride. Breathing small amounts of TCE may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating. Breathing large amounts of TCE may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage. Drinking small amounts of TCE for long periods may cause liver and kidney damage, impaired immune system function, and impaired fetal development in pregnant women, although the extent of some of these effects is not yet clear. TCE is characterized as being highly likely to produce cancer in humans.

300.415(b)(2)(ii) -- Actual or potential contamination of drinking water supplies or sensitive ecosystems.

Actual exposure of 23 private drinking water wells exceeding the MCL for TCE has been documented by the EPA and the RAC data. Release of TCE to a surface water body has occurred as evidenced by the eight spring or seep samples with TCE ranging in concentrations from 0.699 µg/L to 12.7 µg/L.

B. Threats to the Environment

300.415(b)(2)(iv) – High levels of hazardous substances or pollutant or contaminants in soils largely at or near the surface, that may migrate.

Concentrations of TCE and vinyl chloride at the Hangar 1 area have been detected in surface soil at a depth of one foot below ground surface (bgs) under concrete at levels up to 2,300,000 µg/kg. TCE contamination detected in various samples exceeded the KDHE Tier 2 RSK soil to groundwater protection pathway value of 200 µg/kg. Vinyl chloride has been detected in surface soil at a depth of one foot bgs at 15,000 µg/kg and at a depth of three feet bgs at 23,000 µg/kg. Vinyl chloride contamination detected in various samples exceeded the KDHE Tier 2 RSK soil to groundwater protection pathway value of 20 µg/kg. TCE and vinyl chloride have been detected in perched water in the vicinity of Hangar 1. TCE was detected at concentrations up to 1000 µg/l and vinyl chloride to 32,000 µg/l. TCE migrating to groundwater has contaminated drinking water wells.

300.415(b)(2)(vii) -- The availability of other appropriate federal or state response mechanisms to respond to the release.

The KDHE entered into negotiations for a state Consent Order with the RAC to prepare an Engineering Evaluation/Coast Analysis (EE/CA) and conduct the response selected in the EE/CA. These parties failed to reach an agreement. In a letter dated February 10, 2003, the KDHE requested that the EPA undertake a removal action to address extremely contaminated soils at the Tri-County Airport Site, Hangar 1 area.

IV. ENDANGERMENT DETERMINATION

The actual release of a hazardous substance at this site, if not addressed by implementing the response action selected in this Action Memorandum, presents an imminent and substantial endangerment to the health of the public that comes in contact with the site and to public welfare and the environment. Federal and state agencies are recommending that immediate response actions be taken to reduce potential exposure.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Engineering Evaluation/Cost Analysis

The EPA Region 7 Superfund Division prepared an EE/CA, which identified proposed removal action alternatives for contaminated soil at the Hangar 1 area of the TCPA site in Morris County, Kansas. The EE/CA was prepared under CERCLA to provide an organized and systematic framework for evaluating the best response technologies for addressing contaminated soil. The EE/CA evaluated six removal action alternatives to address VOCs in soil. These six removal action alternatives are described in the EE/CA and were evaluated based

on effectiveness, implementability, and cost. Based on the comparative analyses of the corrective action alternatives, the recommended corrective action is excavation with off-site disposal of contaminated soils.

2. Proposed Action Description

The proposed action involves the excavation and off-site disposal of contaminated soils within an engineered disposal cell. Excavated soils will not be treated prior to disposal. Soils will be excavated and transported directly off-site with minimal on-site staging and storage. The proposed action will involve off-site disposal at an approved disposal facility. The excavated soil may be used as daily cover material at the disposal facility providing for beneficial use of the soil from the TCPA site. Areas subject to excavation will be backfilled with clean fill material which will be properly compacted and placed at an elevation suitable for use as a sub-base for the replaced surface. Original surfaces (concrete, gravel, etc.) will be replaced and suitable grading will be maintained or improved, if appropriate, to facilitate surface runoff.

The soil source area was delineated based on contaminants of concern (COC) concentrations detected in on-site soil that exceeded Preliminary Remediation Goals (PRGs) (Table 1). Soils with COC exceeding the PRGs will be excavated during the proposed action. Excavation dimensions for the soil source area are shown in Figure 2, which was developed from investigation results for the COC. On the basis of this information, it is estimated that the area of contamination will be excavated to a maximum depth of approximately 16 feet bgs, which would be approximately 33,704 cubic-yards (yd^3) of soil. Excavation will not include bedrock material. Excavation will include removal of soils in an area north and west of Hangar 1. Contaminated soil beneath Hangar 1 will not be excavated. The excavation pit will be de-watered during field activities. Collected water will be treated as appropriate prior to discharge.

Confirmation sampling will be conducted to assure that soils containing COC above PRGs have been removed. Upon completion of the excavation, confirmation sidewall samples will be collected from the perimeter cells and analyzed to verify the PRGs for COC-contaminated soils have been achieved. The total number of samples will vary, depending on the size of the actual excavation. Where appropriate, samples will be collected from the bottom of excavations. All site sampling activities for comparison to the cleanup level will be conducted in accordance with an approved Quality Assurance Project Plan (QAPP).

Monitoring and site control measures, such as dust suppression by spraying water and storm water runoff control measures, will be implemented to ensure that removal activities do not expose nearby populations and site workers to harmful levels of contaminants.

2. Contribution to Remedial Performance

The proposed action will address a source of the groundwater contamination, mitigating the direct contact threat posed by exposure to contaminated groundwater. The proposed action will be consistent with future remedial actions that may be necessary to address groundwater contamination.

4. Applicable Relevant and Appropriate Requirements (ARARs)

Section 300.415(j) of the NCP provides that fund-financed removal actions under CERCLA Section 104 and removal actions pursuant to CERCLA Section 106 shall, to the extent practicable considering the exigencies of the situation, attain ARARs under federal environmental, state environmental, or facility-citing laws. The following site-specific ARARs have been identified for this action:

Resource Conservation and Recovery Act (RCRA) - Subtitle C of RCRA, 42 U.S.C. Section 6901, et seq., 40 C.F.R. Part 260, et seq. and implementing federal and state regulations for contaminated soil that exhibit the characteristic of toxicity and are considered RCRA hazardous waste. The EPA has concluded that the TCE-waste in the soil and groundwater is not a listed hazardous waste. Based on soil analytical results at the TCPA Hangar 1 area, it is unlikely that excavated soils will contain levels of TCE, DCE, or vinyl chloride that exceed the TCLP level. Two samples were collected for TCLP analysis from the areas with the highest field photoionization detector (PID) readings for VOCs during the removal assessment. The TCLP results from these samples did not exceed regulatory levels for a characteristic hazardous waste. The hazardous waste determination requirements in 40 C.F.R. 261.24 are applicable.

Occupational Safety and Health Act Standards - 29 C.F.R. Part 1910 and Part 1926.20 - 1926.26, will be applicable to all actions.

Clean Water Act (33 U.S. Code 1251 to 1376), as amended by the Water Quality Act of 1987, provides authority for each state to adopt water quality standards designed to protect beneficial uses of each water body and requires states to designate uses for each water body. Kansas Water Pollution Control Regulations under Kansas Administrative Regulations (K.A.R). 28-16 provide for definition of pollution and statutory authority to regulate and protect waters of the state. For response actions at the TCPA site involving construction and excavation of contaminated soil, engineering controls designed to prevent discharges that may affect the water quality of nearby surface waters will be implemented. A specific National Pollutant Discharge Elimination System (NPDES) permit will not be required if remediated groundwater is discharged on-site. Discharges would meet the substantive requirements for storm water and wastewater discharge including monitoring requirements established by K.A.R. 28-16.

In a March 28, 2003, letter the KDHE identified state ARARs. Kansas Ambient Air Quality Pollution Control Regulations under K.A.R. 28-19 provide emission standards for listed hazardous air pollutants and state air quality standards to protect public health. Vinyl chloride is a regulated pollutant under K.A.R. 28-19 which sets a significant emission level potential-to-emit (PTE) of 1 ton/year. TCE and DCE are not specifically regulated under K.A.R. 28-19 and would be in the VOC category of regulated pollutants which has a state permit PTE threshold of 40 tons/year. It is anticipated that neither the vinyl chloride nor the VOC emission standards from any of the alternatives evaluated in this EE/CA would be exceeded.

The Risk Based Standards for Kansas are "to be considered" (TBC) standards for the appropriate site related contaminants. This includes the soil to groundwater protection pathway and non-residential soil pathway values for TCE, DCE and, vinyl chloride.

5. Project Schedule

On-site removal activities are anticipated to begin in the fall of 2004 and require approximately three months to complete. If other areas are discovered which require additional work, this may affect the completion time.

6. Post-Removal Site Controls

The excavation would be backfilled and the site restored. No equipment would be installed or require ongoing operation and maintenance and no post-removal site controls would be required.

B. Estimated Costs

The PRP will implement and complete the work described in this Action Memorandum.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will continue to cause contaminated soils in the Hangar 1 area to leach into the Cresswell, Stovall, and Towanda aquifers which are sources of drinking water.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

There is an Enforcement Addendum for this site. For NCP consistency purposes, it is not part of this Action Memorandum.

IX. RECOMMENDATION

This decision document represents the recommended removal action for the contaminated soil at the TCPA site, Morris County, Kansas. The removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the site.

Conditions at the site meet NCP Section 300.415(b) criteria for a removal action and I recommend your approval of the proposed PRP-lead removal action.

For purposes of this removal action, I recommend that Bill Bunn be designated as an on-scene coordinator (OSC) for this removal action, if a PRP conducts the response action.

Approved:

Cecilia Tapia
Director
Superfund Division

9/30/04
Date

Attachments

Table 1

PRELIMINARY REMEDIATION GOALS
TRI-COUNTY PUBLIC AIRPORT SITE

Chemical	Surface Soil (ug/kg) [a]	Sub-surface Soil (ug/kg) [b]
cis-1,2-Dichloroethylene	180,000	800
trans-1,2-Dichloroethylene	290,000	1,500
Trichloroethylene	98,000	200
Vinyl Chloride	540	20

[a] - Risk Based Standards for Kansas, RSK Manual - 3rd Version, March 1, 2003 - Non- residential scenario, Soil Pathway

[b] - Risk Based Standards for Kansas, RSK Manual - 3rd Version, March 1, 2003 - Soil to Groundwater Protection Pathway

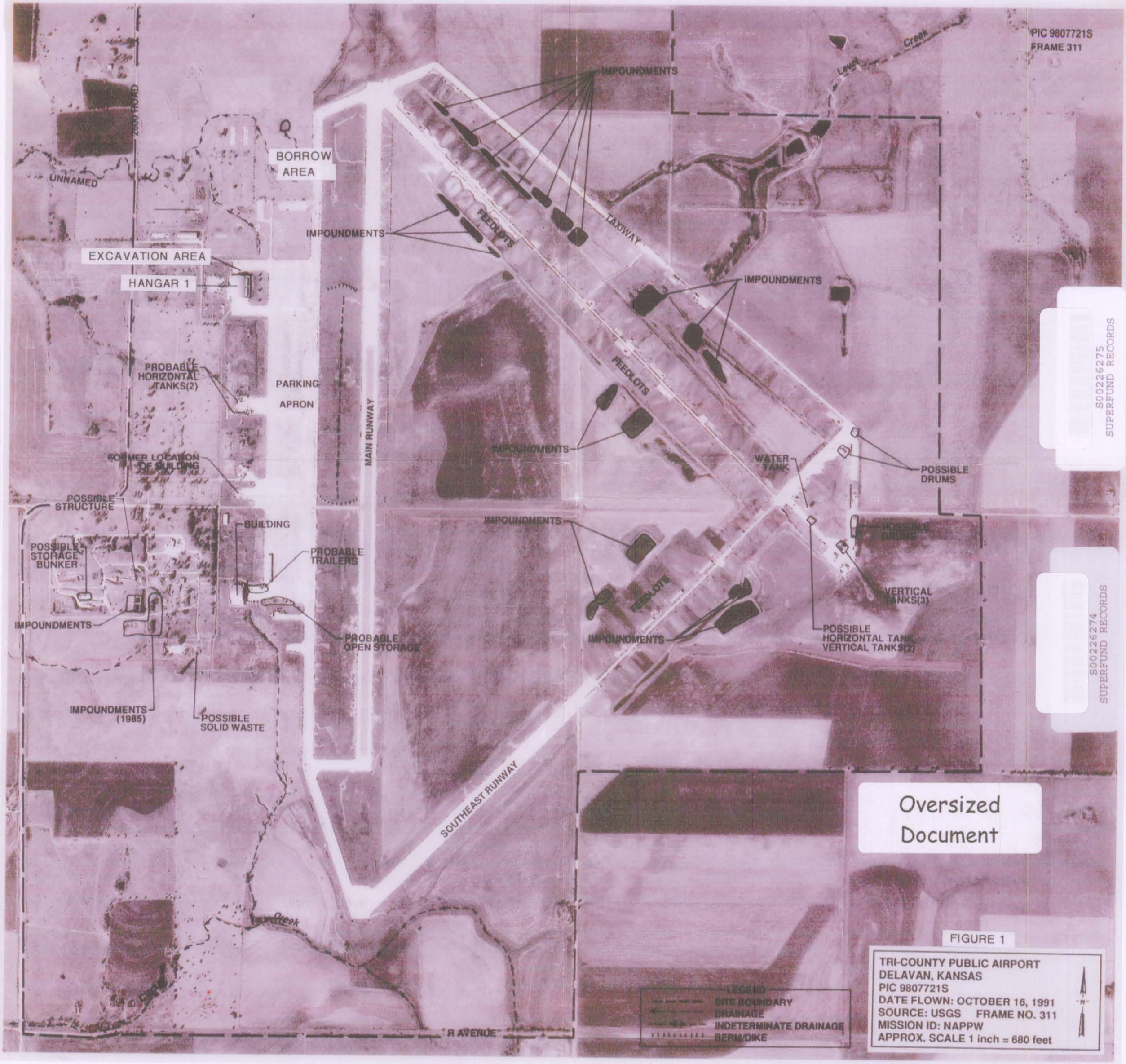


FIGURE 1

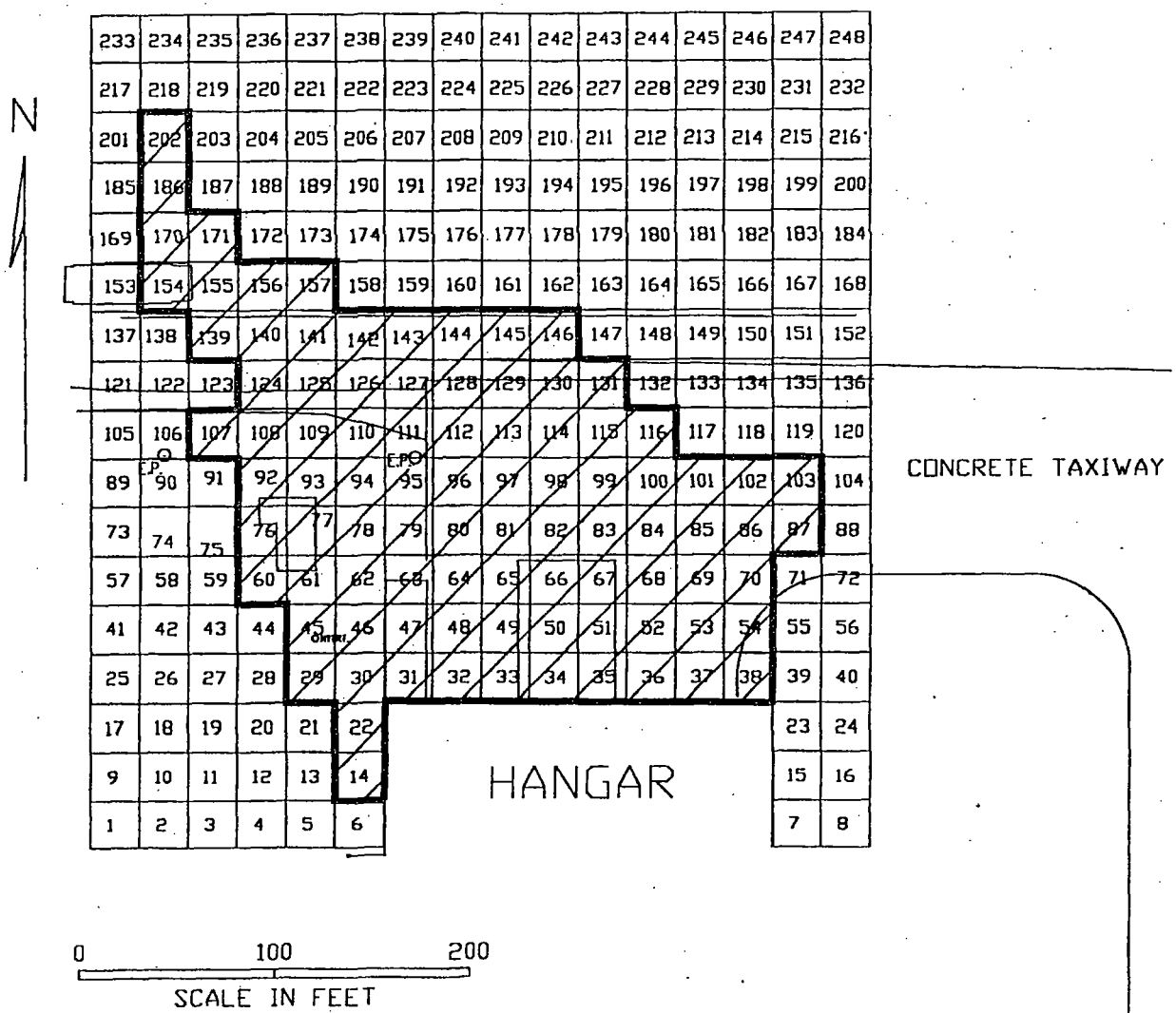


Figure-2. Tri-County Public Airport
Soil Excavation Area.

ATTACHMENT 5

STATEMENT OF WORK

TRI-COUNTY PUBLIC AIRPORT SITE REMOVAL ACTION

I. INTRODUCTION

The actions described in this Statement of Work (SOW) shall be undertaken for the purpose of implementing the Action Memorandum for the Tri-County Public Airport Site (Site) in Morris County, Kansas, in accordance with the Unilateral Administrative Order for Removal Response Activities (Order) to which the SOW is attached. This removal action includes the excavation of contaminated soils and wastes that exceed action levels and the disposal of these materials at an off-Site disposal facility.

Pursuant to the Order, Respondent Raytheon Aircraft Company (Raytheon) shall prepare work plans for the review and approval of EPA. Upon approval, Respondent Raytheon shall then perform the actions described in the work plans under EPA oversight. Respondent City of Herington, Kansas (City) shall perform actions and provide materials described in this SOW.

II. WORK PLANS

A. Removal Action Work Plan

Within 45 days of the Effective Date of the Order, Respondent Raytheon shall submit a Removal Action Work Plan (RAWP) to EPA for review and approval. The RAWP shall provide detailed plans for the execution of, and a schedule for the completion of, each of the removal activities described in this SOW. The RAWP must include the identification of and plans for compliance with applicable permitting requirements and environmental statutes.

The RAWP shall include, but is not limited to, the following:

1. A detailed schedule for all removal activities to be performed.

2. A design plan for implementation of excavation of soil from the Hangar 1 Area of the Site, in agreement with this SOW. The approximate boundaries of the removal area to be excavated are shown on Figure 1 of this SOW. Soils shall be excavated in the Hangar 1 Area that exceed the preliminary remediation goals (PRGs), and to the surface of bedrock or as otherwise specified in this SOW. Proposed soil and other media removal methods, disposal methods and verification sampling and analysis criteria to be used must be detailed in the RAWP and shall be in compliance with the applicable provisions of the Resource Conservation and Recovery Act (RCRA) (40 C.F.R. Part 268), State regulations and the "Off-Site Rule," as set forth in 40 C.F.R. § 300.440. Contaminated soil and other media shall continue to be excavated and removed from the Site for disposal until the PRGs are met in accordance with an EPA-approved sampling scheme as presented in the Sampling and Analysis Plan (SAP). Analytical results of verification sampling shall be submitted to EPA within 21 days of receipt of sampling results by Respondent Raytheon. All off-Site soils used for backfill of excavated areas shall be sampled and must have concentrations which do not exceed the PRGs for the on-Site areas and must be approved and acceptable to EPA. The excavated soils and wastes shall be transported to

an EPA-approved treatment, storage or disposal facility in compliance with all applicable State, local and Federal laws and regulations.

3. A description of the transportation of all hazardous substances (contaminated soil, dust, water and/or other media) to an EPA-approved treatment, storage or disposal facility in compliance with all applicable State, local and Federal laws and regulations. The facility selected to receive the materials generated during the Site clean-up should be verified by the EPA Project Coordinator prior to initiating Site clean-up as a facility in compliance with the "Off-Site Rule", as set forth in the NCP at 40 C.F.R. § 300.440.

4. A design plan for dewatering of excavation areas and treatment of water removed from the excavation areas. Water treatment and discharge shall meet appropriate State and Federal standards.

5. Plans for conducting air monitoring for emissions during removal activities, including contingency plans in the event emissions exceed health-based standards.

6. The identification of all applicable or relevant and appropriate requirements (ARARs) under Federal environmental or State environmental or facility siting laws.

B. Quality Assurance Project Plan

Within 45 days of the Effective Date of the Order, the Respondent Raytheon shall submit a Quality Assurance Project Plan (QAPP) to EPA for review and approval which will provide for quality assurance, quality control, and chain of custody procedures in accordance with applicable EPA guidance.

The QAPP shall describe all sampling and analytical procedures to be followed to document the type and quality of data needed to satisfy the requirements of this SOW and to provide a plan for collecting and assessing the data to be collected to meet the requirements of the Order. The QAPP shall be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/240/R-02/009, December 2002).

C. Sampling and Analysis Plan

Within 45 days of the Effective Date of the Order, the Respondent Raytheon shall submit a Sampling and Analysis Plan (SAP) to EPA for review and approval. The SAP shall include a description of soil and groundwater sampling and analysis to support removal activities and a description of verification sampling to confirm that PRGs have been met at the conclusion of the excavation. This SAP shall include a description of the type and location of samples and the types of analysis for all Work performed under the RAWP. This shall include a description of sidewall sampling to verify that RPGs are not exceeded at the excavation perimeter. The purpose of ground water sampling is to determine the appropriate requirements for treatment prior to discharge and confirm that treatment meets all appropriate State and Federal standards.

The SAP shall include, but is not limited to, the following:

1. All sampling and analyses performed pursuant to the Order shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation and chain of custody procedures. Respondent Raytheon shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies

with appropriate EPA guidance. Respondent Raytheon shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990) and "Environmental Response Team Standard Operating Procedures," (OSWER Directive Numbers 9360.4-2 through 9360.4-08) as guidance for QA/QC and sampling. Respondent Raytheon shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA. The EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program ("NELAP") as meeting the Quality System requirements.

2. Upon receipt of a request by EPA, Respondent Raytheon shall have its laboratory(s) analyze samples provided by EPA for QA monitoring. Respondent Raytheon shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

3. Upon receipt of a request by EPA, Respondent Raytheon shall allow EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by or for Respondent Raytheon while performing Work under this Order. Respondent Raytheon shall notify EPA not less than ten (10) days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. The EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow Respondent Raytheon to take split or duplicate samples of any sample EPA takes as part of its oversight of the implementation of the Work.

4. The validated sampling data generated in accordance with the QAPP and reviewed and approved by EPA shall be admissible as evidence, without objection, in any proceeding relating to this Order.

D. Health and Safety Plan

Within 45 days of the Effective Date of the Order, the Respondent Raytheon shall submit a Health and Safety Plan (HASP). The HASP shall be prepared in accordance with EPA's current Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the HASP shall comply with all current applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910 and include at a minimum the following elements:

1. Assessment of chemical and physical hazards at all relevant locations;

2. Identification of Site control measures and required levels of protection and safety equipment;

3. Field monitoring requirements;

4. Equipment and personnel decontamination and residual management;

5. Training and medical monitoring requirements; and

6. Emergency planning and emergency contacts.

III. REMOVAL ACTIVITIES

Respondent Raytheon shall conduct all activities described in this section (Removal Activities) of this SOW unless otherwise specified.

A. Waste Material Excavation

Respondent Raytheon shall provide the necessary personnel, equipment and materials to perform the following tasks associated with this Tri-County Public Airport Site removal action. All contaminated soils, residues, and wastes which exceed the following PRGs shall be excavated and disposed off-Site as specified in this SOW:

PRELIMINARY REMEDIATION GOALS
TRI-COUNTY PUBLIC AIRPORT SITE

Chemical	Subsurface Soil (ug/kg) *
cis-1,2-Dichloroethylene	800
trans-1,2-Dichloroethylene	1,500
Trichloroethylene	200
Vinyl Chloride	20

* - Risk Based Standards for Kansas, RSK Manual - 3rd Version, March 1, 2003 - Soil to Ground Water Protection Pathway

The soil excavation depths and horizontal extent shall be determined based on field sampling unless otherwise specified in this SOW. The SAP shall describe sampling for the base and sidewalls of each excavation area at the perimeter of the excavation to ensure that no soil remains which contains a contaminant exceeding a PRG. Controls to prevent off-Site migration of contaminants shall be included in the RAWP.

Respondent Raytheon shall obtain all necessary permits and/or notifications that are required by local, State, and/or Federal requirements. This includes, but is not limited to, the notification of Kansas One-Call, #1-800-Dig-Safe.

Respondent Raytheon shall conduct the following activities:

1. Remove concrete surfaces from the following cells: 31, 32, 33, 34, 35, 36, 37, 38, 47, 48, 49, 50, 51, 52, 53, 54, 60, 61, 63, 64, 65, 66, 67, 68, 69, 70, 76, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 92, 93, 95, 96, 97, 98, 99, 100, 101, 102, 103, 111, 112, 113, 114, 115, 116, 127, 128, 129, 130, 131, and 154 (see Figure 2). The concrete may be utilized as backfill for the excavated area if the following conditions are met:

    a. The dimension of each piece of concrete is less than or equal to sixteen (16) square feet.

b. If reinforcement bar is present in the concrete, it must not protrude from the surface of the concrete.

c. The concrete is placed in the base of the excavation.

If the concrete is not utilized as backfill, it must be managed in accordance with local and State requirements.

2. Install sidewall protection in cells located on the north and west side of Hanger 1. The cells are: 14, 22, 30, 31, 32, 33, 34, 35, 36, 37, and 38 (see Figure 1). The sidewall protection must ensure that no damage will occur to Hanger 1 during the excavation of contaminated soil.

3. Excavate soil from the following cells: 14, 22, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 92, 93, 94,95, 96, 97, 98, 99, 100, 101, 102, 103, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 124, 125, 126, 127, 128, 129, 130, 131, 139, 140, 141, 142, 143, 144, 145, 146, 154, 155, 156, 157, 170, 171, 186, and 202 (see Figure 1). During excavation, the following criteria must be met:

a. The soil must be excavated to either a depth of sixteen (16) feet or until bedrock is encountered, whichever occurs first. Excavation techniques must be utilized that will prevent the contaminated soil from being dispersed to non contaminated areas.

b. If the abandoned water line that is present along the west side of Hanger 1 is encountered during the excavation, it must be removed and be free of contaminated soil.

c. The excavation of contaminated soils from cells 95 and 111 must be completed in such a manner as to not damage or negatively impact the integrity of the utility pole.

d. During the excavation of cells 14, 154, 155, 157, 170, 171, 186, and 202, the first six (6) feet of soil removed may be staged on Site and utilized as backfill.

e. During the excavation of cells 116 and 156, the first twelve (12) feet of soil removed may be staged on Site and utilized as backfill.

f. During load out of contaminated soil, the Respondent Raytheon must utilize techniques that ensure no contaminated soil is released.

g. If water is encountered in the excavation in quantities that requires its removal to successfully complete the excavation, the water must be managed in accordance with all local, State and Federal regulations.

h. No underground storage tanks (USTs) are known to exist in the area requiring excavation. However, if one is encountered, the contents of the UST, if any, must be determined, and the UST must be removed in accordance with local, State and Federal regulations.

4. The excavated cells must be backfilled with soil that is free of contamination. EPA has identified a borrow source that is located approximately one thousand three hundred (1300) feet north east of Hanger 1 (see Figure 3).

   a. If a separate borrow source is identified by the Respondent Raytheon, the soil type and analytical results must be approved by the EPA prior to use.

   b. The soil that is utilized as backfill must be sufficiently compacted to support pre-excavation Site conditions including replacement of concrete.

   c. The excavated cells are to be backfilled expeditiously.

   d. During backfilling operations, the Respondent Raytheon must ensure that the clean soil does not become contaminated.

   e. The soil utilized as backfill must be placed to the pre-excavation elevation in cells 14, 22, 29, 30, 45, 46, 60, 61, 62, 76, 77, 78, 92, 93, 94, 107, 108, 109, 110, 124, 125, 126, 139, 140, 141, 142, 143, 144, 145, 146, 154, 155, 156, 157, 170, 171, 186, and 202 (Figure 1). The cells must be graded to ensure proper drainage and match the surrounding soils.

   f. The soil utilized as backfill must be placed to within ten (10) inches of the pre-excavation elevation in cells 31, 32, 33, 34, 35, 36, 37, 38, 47, 48, 49, 50, 51, 52, 53, 54, 63, 64, 65, 66, 67, 68, 69, 70, 79, 80, 81, 82, 83, 84, 85, 86, 87, 95, 96, 97, 98, 99, 100, 101, 102, 103, 111, 112, 113, 114, 115, 116, 127, 128, 129, 130, and 131 (Figure1). The compacted soil must adequately support an overlying gravel base and/or concrete surface. The final surface shall be provided by Respondent City.

   g. Upon completion of the backfilling operations, the borrow area located north east of Hanger 1, if utilized, must be graded such that surface water is directed towards the pond. Any other borrow area must be graded for proper drainage upon completion of the backfilling operations

5. Respondent Raytheon shall excavate additional areas in the vicinity of Hangar 1 which exceed the action levels. This shall exclude areas underneath the Hangar1 structure or areas which may effect the structural integrity of Hangar 1. EPA will make the final determination as to which areas may not be excavated due to potential adverse effects on the structural integrity of Hangar 1.

B. Dewatering of Excavation Area

In the event that ground water must be extracted for purposes of dewatering the area to be excavated, Respondent Raytheon shall submit a design plan to EPA for review and approval for treatment and discharge of this water. Water treatment and discharge shall meet appropriate State and Federal standards.

C. Fence Installation

Respondent City shall move and/or construct fences at the Site boundaries to prevent access to on-Site activities as appropriate. Fencing shall be sufficient to prevent human or livestock contact with the excavation areas and contaminated media. Warning signs shall be

placed on the fence to advise that the area is hazardous due to contaminants in the Site soils until such time as all contaminated soils which exceed the PRGs are removed from the Site. Fencing used for the pasture north of the excavation shall be moved and replaced as necessary for the excavation activities.

D. Backfill Material

Respondent City shall provide backfill material for fill of all areas of excavation required in this SOW. This backfill material shall be provided to Respondent Raytheon at no cost and shall be made available at any time during excavation and backfill activities. Respondent Raytheon shall be responsible for the removal and transportation of the backfill material from the designated backfill area to the excavation area. The EPA has identified a borrow source that is located approximately one thousand three hundred (1300) feet north east of Hanger 1 (see Figure 3).

E. Replacement of Concrete

Respondent City shall replace concrete surfaces removed during excavation as necessary for commercial operation of the property. The extent and specifications of the concrete or other cover replacement shall be at the discretion of Respondent City.

F. Transportation and Disposal of Waste Material

Respondent Raytheon shall conduct all activities related to transportation and disposal of waste materials as required in this SOW. All excavated waste materials exceeding the PRGs shall be disposed off-Site.

1. Off-Site Shipments.

a. Respondent Raytheon shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed ten (10) cubic yards.

i. Respondent Raytheon shall include in the written notification the following information: (A) the name and location of the facility to which the Waste Material is to be shipped; (B) the type and quantity of the Waste Material to be shipped; (C) the expected schedule for the shipment of the Waste Material; and (D) the method of transportation. Respondent Raytheon shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

ii. The identity of the receiving facility and state will be determined by Respondent Raytheon following award of the contract for the removal action. Respondent Raytheon shall provide the information required by the previous paragraph as soon as

practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants or contaminants from the Site to an off-Site location, Respondent Raytheon shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent Raytheon shall only send hazardous substances, pollutants or contaminants from the Site to an off-Site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

2. During transportation of the contaminated soil to the Subtitle D facility, the Respondent Raytheon must:

a. Secure the contaminated soil in such a manner that none will be released during transportation. This includes, but is not limited to, covering each load.

b. The shipping papers must be properly completed and accompany each shipment.

c. The vehicle and driver must comply with Department of Transportation regulations, and all local, state, and Federal rules regarding operation of a motor vehicle.

G. Backfilling, Grading, and Ground Cover of Excavation Areas

In all areas in which excavation has occurred, Respondent Raytheon shall backfill and grade to restore the areas to the pre-excavation contours, unless otherwise specified by EPA, and/or provide for proper drainage. In areas where concrete was removed, the area shall be prepared for the replacement of concrete surfaces as specified by Respondent City. Areas that were previously covered with soil, grass, or loose gravel shall be recovered to their original condition.

H. Site Access

If the Site, or any other property where access is needed to implement this Order, is owned or controlled by Respondent City, Respondent City shall, commencing on the Effective Date, provide EPA and Respondent Raytheon and their authorized representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Order.

Where any action under this Order is to be performed in areas owned by or in possession of someone other than Respondent City, Respondent City shall use its best efforts to obtain all necessary access agreements within 30 days of the Effective Date, or as otherwise specified by the EPA Project Coordinator. Such agreements shall provide access for EPA and Respondent Raytheon and their authorized representatives for the purpose of conducting any activity related to this SOW. For purposes of this Paragraph, "best efforts" includes the payment of reasonable compensation in consideration of access. In the event that any such access agreement is not obtained within this time period, Respondent City shall notify EPA in writing of its failure to obtain access and describe its efforts to obtain such access. The EPA may, as it deems

appropriate, assist Respondent City in obtaining access to the extent necessary to effectuate the response actions described herein.

I. Office Facilities

Respondent City shall provide use of office facilities during removal activities at no cost to Respondent Raytheon and EPA at their request. The office facilities provided may be space in Building 536 as designated on the Herington Army Air Base, General Layout and Facilities Figure, Revision 3, dated August 7, 1945. Respondent City shall provide utilities including electricity and water and shall also include communication connections for telephone, internet, and facsimile.

J. Well Abandonment

Respondent Raytheon shall abandon all wells and piezometers in the areas of excavation in compliance with Kansas Administration Regulations 28-30.

K. Project Schedule

A project schedule for implementation of the activities required by the Order and this SOW shall be included in the RAWP for review and approval by EPA. Specific dates must be identified for the completion of the project and major interim milestones. Any modifications to the project schedule shall be proposed in the Monthly Progress Reports and approved by EPA as appropriate.

IV. REPORTING REQUIREMENTS

A. Monthly Progress Reports

Respondent Raytheon shall submit written monthly progress reports to EPA on or before the 10th day of each month, starting with the first full month following the Effective Date and continuing until the Removal Action Report is approved by EPA. The monthly progress reports shall include, at a minimum:

1. A description of the actions completed during the reporting period;

2. A description of actions scheduled for completion during the reporting period which were not completed along with a statement indicating why such actions were not completed and an anticipated completion date;

3. Copies of all sampling and test results received during the reporting period;

4. Any proposed revisions to the project schedule for review and approval by EPA; and;

5. A description of the actions which are scheduled for completion during the next reporting period.

B. Removal Action Report

Within 30 days after completion of all Work required by this Order, Respondent Raytheon shall submit to EPA, for review and approval by EPA, a Removal Action Report

(RAR) summarizing the actions taken to comply with this Order. The RAR shall include, but not be limited to, the following:

1. A description of the Hanger 1 Area portion of the Site, including location, surrounding land use, Site physiography, including topography, geology and hydrogeology;

2. A description of the Work performed, including any investigative activities, all laboratory analysis reports, a summary of all analytical data associated with the investigation including quality control data, and a sample results table covering all sampling;

3. A description of the nature and extent of contamination addressed during removal activities;

4. Copies of all manifests and/or shipping papers reflecting off-Site shipment of hazardous substances except samples; and

5. Copies of any photographs taken during implementation of the removal action.

The RAR shall also include the following certification signed by a person who supervised or directed the preparation of the RAR:

> "Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved with the preparation of this report, the information submitted is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

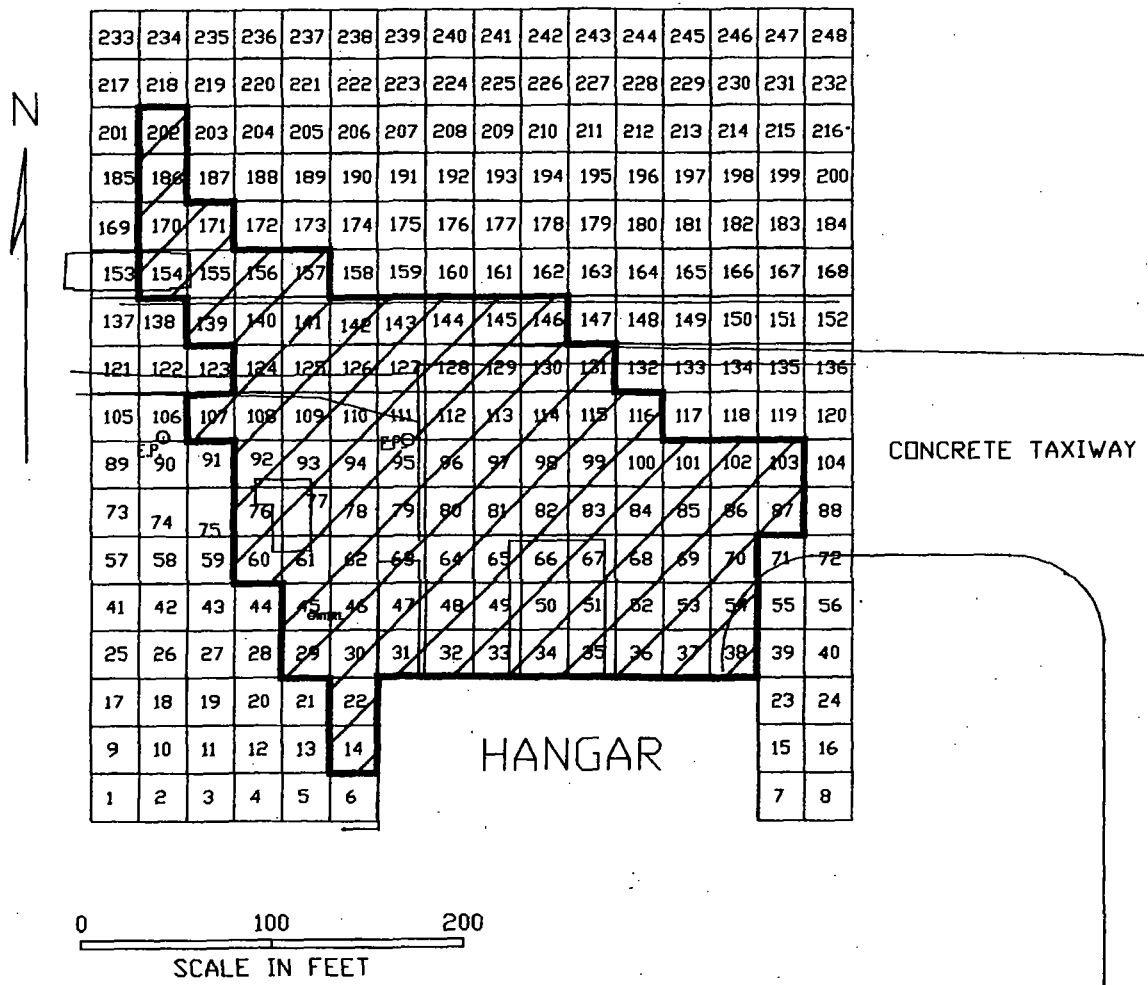


Figure-1. Tri-County Public Airport
Soil Excavation Area.

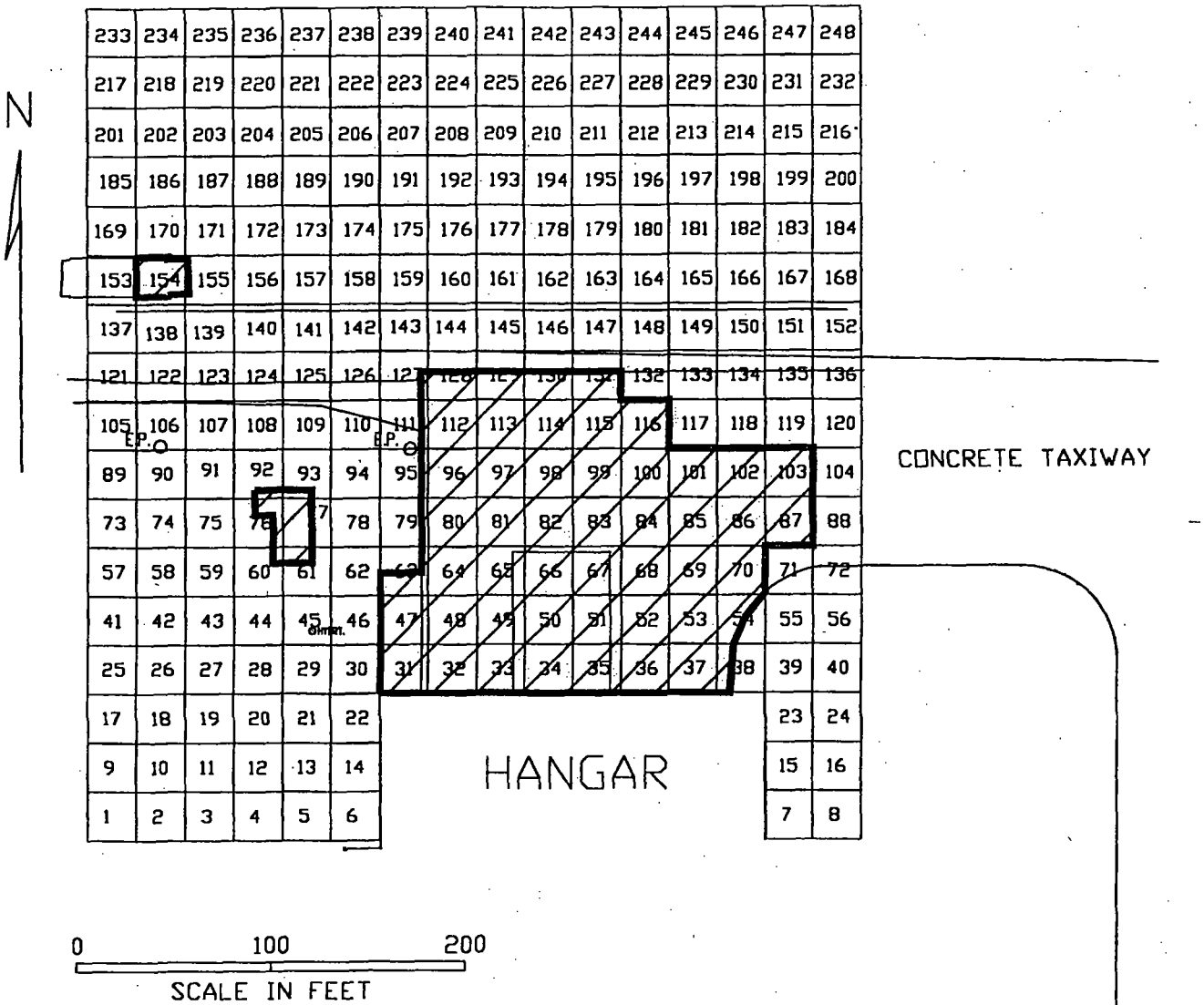


Figure-2. Tri-County Public Airport Concrete Removal.

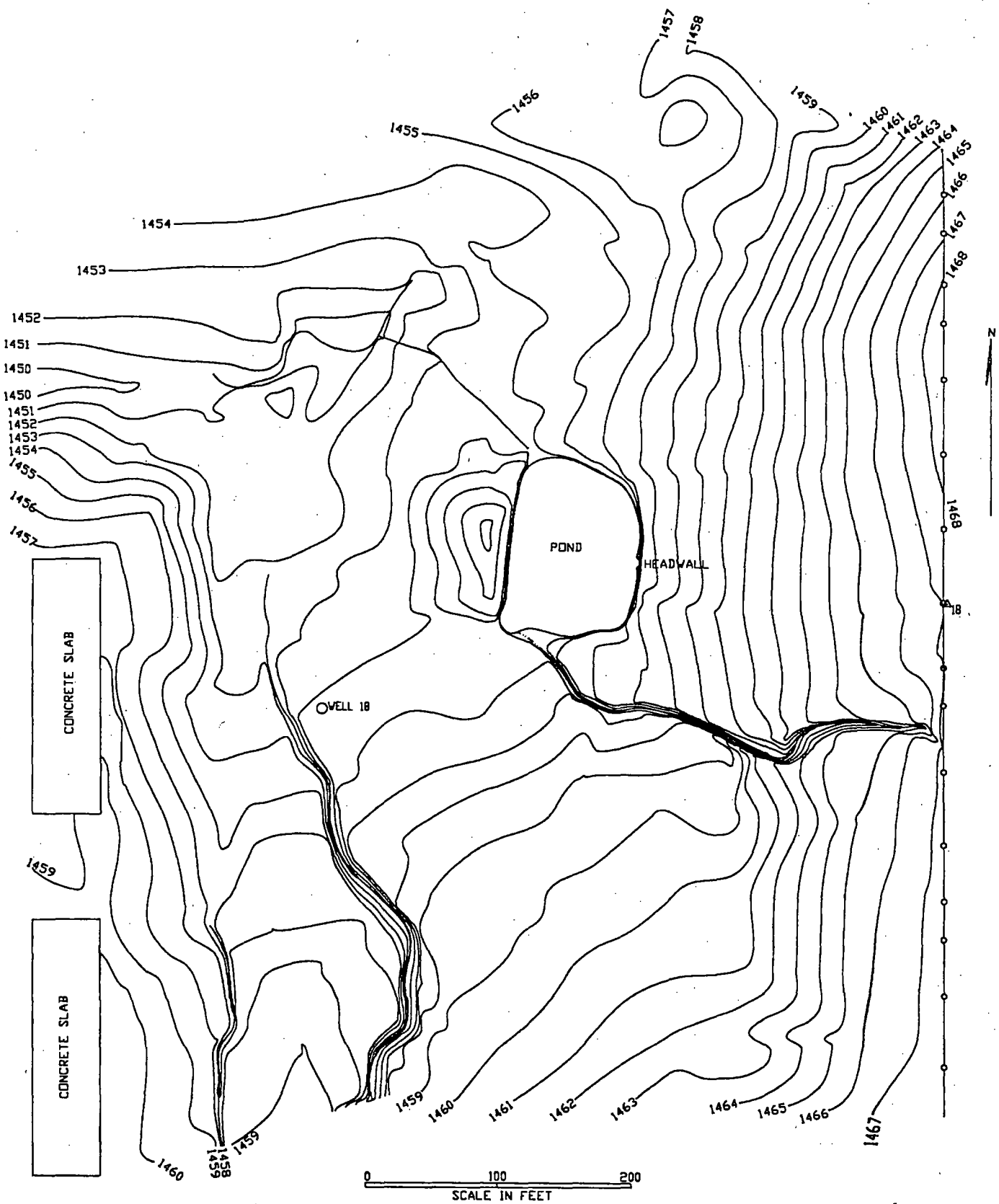


Figure-3. Tri-County Airport Borrow Area

ATTACHMENT 6

REFERENCE DOCUMENTS

"Compendiums of the Environmental Response Team's (ERT) Standard Operating Procedures (SOPs) for Sampling and Analytical Protocols", January 1991, OSWER Directives Nos. 9360.4-02, 9360.4-03, 9360.4-05, 9360.4-06, 9360.4-07, and 9360.4-08.

"EPA Standard Operating Safety Guides," PUB 9285.1-03, PB92-963414, June 1992.

"EPA Requirements for Quality Assurance
March 2001.

"EPA Requirements for Quality Manageme
2001

"EPA Guidance for Quality Assurance Proj
December 2002.

"National Oil and Hazardous Substances C
Reg. 8666 (March 8, 1990).

"Quality Assurance/Quality Control Guidar
and Data Validation Procedures", April 199

"Specifications and Guidelines for Quality S
Environmental Technology Programs," Am
ANSI/ASQC E-4-1994.

II. C - p. 2 - RPGs (PRGs)
III. A. 4. f - p. 6 - backfill to 10 inch of orig surface.
III. G - p. 8 - city specify surface
→ may be inconsistent

ATTACHMENT 6

REFERENCE DOCUMENTS

"Compendiums of the Environmental Response Team's (ERT) Standard Operating Procedures (SOPs) for Sampling and Analytical Protocols", January 1991, OSWER Directives Nos. 9360.4-02, 9360.4-03, 9360.4-05, 9360.4-06, 9360.4-07, and 9360.4-08.

"EPA Standard Operating Safety Guides," PUB 9285.1-03, PB92-963414, June 1992.

"EPA Requirements for Quality Assurance Project Plans," EPA QA/R-5, EPA/240/B-01/003, March 2001.

"EPA Requirements for Quality Management Plans," EPA QA/R-2, EPA/240/B-01/002, March 2001

"EPA Guidance for Quality Assurance Project Plans," EPA QA/G-5, EPA/240/R-02/009, December 2002.

"National Oil and Hazardous Substances Contingency Plan: Final Rule," Vol. 55, No. 46 Fed. Reg. 8666 (March 8, 1990).

"Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures", April 1990, OSWER Directive 9360.4-01.

"Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," American National Standard, January 5, 1995, ANSI/ASQC E-4-1994.